

AN EVALUATION OF THE FINANCIAL MANAGEMENT SYSTEM AT THE MILITARY SEALIFT COMMAND

Jeffrey A. Rutledge

December, 1995

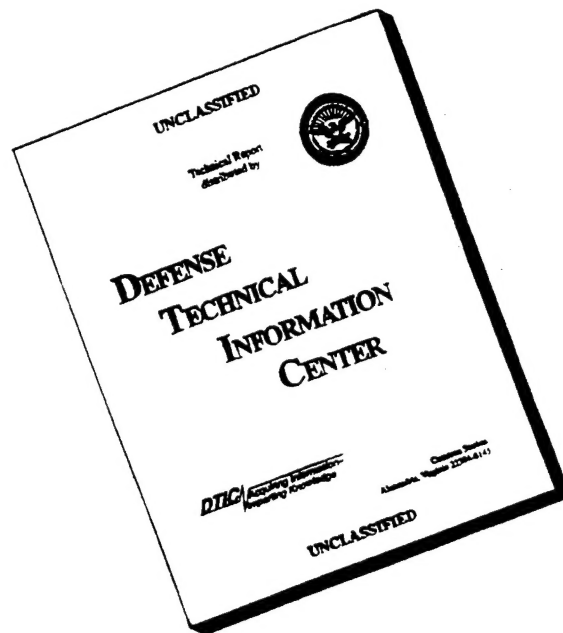
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Captain, United States Marine Corps
B.S., Lehigh University, 1989

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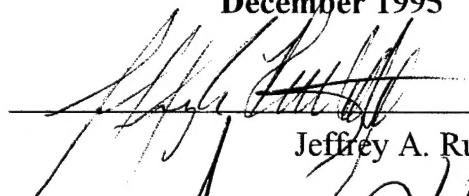
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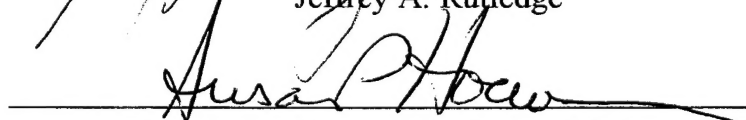
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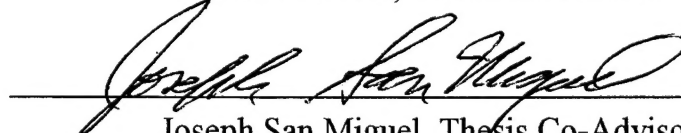
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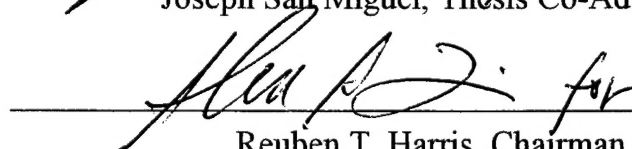
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ABSTRACT

This thesis examines the Military Sealift Command's (MSC's) Financial Management Information System (FMIS) to determine whether the system will adequately support program managers under the MSC's future reinvented organizational structure. Specifically, this thesis sought to determine whether sufficient timely, accurate, and usable information is made available to managers to manage their respective programs. Research data was gathered primarily through interviews with MSC personnel, an examination of MSC's General Ledger module within the FMIS, and an examination of internal financial management reports. The analysis revealed that the General Ledger module of FMIS and the FMIS in general, will, with a few exceptions, adequately support the program managers' future financial management information requirements. Finally, recommendations for additions or improvements are discussed.

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I. INTRODUCTION

A. THE MILITARY SEALIFT COMMAND (MSC) TODAY

1. General

The Military Sealift Command (MSC), the Department of Defense's provider of sea-going transportation, is currently in the process of reinventing its organizational structure and business processes. The Commander of MSC, Vice Admiral Philip M. Quast, has initiated this effort with the overall objectives to increase customer focus, improve service quality, and reduce the cost of providing its products. While the actual services that MSC provides to the Department of Defense and the military establishment will not change significantly under the reengineered plan, the way in which it will go about providing these services will represent a radical change in its historical way of doing business.

Presently, and in the past, MSC is organized as the traditional "functional" organization. Each basic service that MSC offers to potential customers (Prepositioning, Intermodal Transportation, Ship Introduction, Strategic Sealift, Naval Fleet Auxiliary Force, and Special Mission Ships) is directed and managed from the N-3, Operations section of MSC's staff. Each other staff section provides its functional support to the effort. For example, the N-8, Comptroller staff provides all effort with respect to the budgeting, finance, and accounting functions. Under this arrangement, success is contingent upon clear guidance and goals with respect to each service, an effective link to whom services are provided,

effective communications among all staff sections, and clear responsibility of functionally defined departments to provide needed support to the operational requirements being managed from within N3. Under the traditional functional organizational structure, these success factors are difficult to accomplish without a singular authority providing guidance and direction from the top of an individual service's hierarchy. Under MSC's functional organizational structure, a singular authority for individual services does not exist.

2. MSC Reinvented

Under the reinvented plan, each of the six basic services will become a business line, or program, with a single manager responsible for the overall performance of the entity. The program, or business line manager will be responsible and accountable for all aspects of his or her organization, to include customer interface, providing overall quality products and services, financial performance, and all decisions that are made in conjunction with the operations of the programs.

In order for the separate program, or business line managers to successfully provide quality, cost-effective services to their customers, these managers will need a financial management information system to provide them the critical financial data by which to manage their programs, as well as a system to provide other critical, non-financial management information such as quality and customer satisfaction. This financial management system must provide the managers with timely, accurate, readable, and usable financial data in order for them to monitor and control the costs of providing services to

customers on a day to day basis. The information must be accurate and timely to allow managers to make overall informed decisions. This financial management system should closely approximate a private sector firm's cost accounting system.

B. THE FINANCIAL MANAGEMENT INFORMATION SYSTEM

1. Area of Research

This thesis examines MSC's present financial management information system and financial management processes, and will propose recommendations as to the usefulness of these systems with respect to the future reinvented organizational structure of MSC. Further, recommendations concerning any changes or additions to the financial management system or processes will be made if warranted. In the end, a system that program or business line managers can use to successfully manage their programs, provide quality services, and control the costs of generating their products is the goal.

In today's military environment of reduced threat and expanding federal budget deficits, Cold-war era budgets and financial resourcing similar to past levels are no longer possible. It is becoming increasingly more important for the Department of Defense and the public sector in general to provide the nation with vital products and services in a cost-effective manner. MSC, like all other military support organizations, operates under the Defense Business Operations Fund (DBOF) concept. Under this concept, these organizations draw funds from a pool of working capital to pay for the costs of producing and delivering goods or services. Customers are then billed in accordance with pre-set rates, and repay the

fund pool. This concept was designed to establish a framework within which service-type organizations could function similar to private sector firms. Holding these organizations financially accountable would be the incentive for them to control costs as they provide their products and services, hence delivering more cost-effective solutions to the nation.

2. Importance of Research

Military directives require service organizations, like MSC, to provide end of period financial statements. While the DBOF concept establishes a mechanism for service entities to function similar to private firms, no formal, clear cut requirement exists for the production and maintenance of cost or management accounting financial information. Without a valid requirement to produce such documents, there is little incentive to do so. Directives, in this case, leave internal management reporting requirements to the discretion of the organization. A lack of financial management information, such as cost and management accounting data, undermines the manager's ability to control the costs of providing services to his or her customers, and manage the operations of his or her overall program. While the DBOF concept revolutionizes the way in which service organization should conduct business, a lack of cost data available to the manager on a day to day basis prevents a legitimate opportunity for these managers to realistically control costs.

This study examines MSC's present accounting system and determines its viability as an adequate cost accounting module within the overall accounting system with which to track, accumulate, and report costs and other financial management information. Further, it

determines whether MSC managers have access to up-to-date, accurate financial management information. Armed with such timely and accurate information and data, these managers will be capable of monitoring and successfully controlling the costs incurred of producing and delivering quality goods and services to their customers. Without a system that provides accurate, up-to-date financial information, extreme difficulty would be encountered attempting to extract specific, relevant financial information and, hence program management would be difficult. Finally, newly proposed processes or financial management reports will provide the blueprint and specifications to allow the management information systems designers to automate and integrate the changes into MSC's Financial Management Information System (FMIS), their existing overarching financial information system.

C. CONDUCTING THE RESEARCH

1. Research Questions to Answer

Several research questions and issues were addressed throughout the course of this study. The overarching goal of this examination was to evaluate MSC's present Financial Management Information System (FMIS) as an adequate cost accounting system under MSC's future reinvented organizational structure, and to make recommendations to improve or correct any shortcomings. The overall goal was to achieve a system that will provide program managers with timely, accurate, and usable financial management information with which to make sound business decisions in the execution of their program's operations. Within this goal, this thesis determined whether the current financial management system will

be compatible with MSC's future reengineered organizational structure. With respect to the actual analysis of the financial management information system, several specific issues have been addressed. First, a development of the basic financial information requirements needed to manage the specific programs, or business lines was necessary. In order to accomplish this, a familiarization of the financial management processes was achieved. Next, the determination of the optimal format in which the financial information should be organized was required. Unless the information available to the managers is presented in a readable, usable format, it will deliver no benefit. Finally, the proposed recommendations were presented in a fashion such that information system designers are able integrate them into MSC's existing Financial Management Information System in the future.

2. Research Focus

This thesis specifically focused its efforts on one of MSC's individual future business lines, the Special Mission Support Force (SMSF). While all of the business lines are legitimate candidates for a study such as this thesis, SMSF was chosen to offer compatible information for a cost and benefit analysis study also being conducted on the SMSF program. The specific research focus was: "does MSC have a financial management information system that will provide future program managers with timely, accurate, and usable financial management information to manage their programs?"

3. Research Methodology

Significant data and analysis were required to facilitate this study. The steps within the basic plan of action to accomplish the objectives are as follows:

- acquire background information concerning MSC in general to include its basic mission, services provided to DoD, and the present Financial Management Information System (FMIS)
- become familiar with SMSF business processes and specific financial information requirements within the business processes
- collect and synthesize current theory and research on cost- and management accounting literature to establish a base model for the evaluation and possible proposed additions to the Financial Management Information System (FMIS)
- evaluate the FMIS and its components, and make recommendations so that it can better serve the program managers under the reinvented organizational structure
- evaluate the proposed system to determine if it will provide benefit to future users in terms of the system itself and from the perspective of the management information system designers.

Background information was collected through contact and interview of MSC personnel and other individuals associated with the organization. Published financial reports and government studies also provided a medium to extract vital contextual data and to document the capabilities of the existing system. Finally, industry literature covering the process of reengineering and reinvention was consulted to establish the backdrop against which the new organizational structure's financial management system was evaluated and designed.

The development of an understanding of SMSF business processes and associated financial management information requirements required interview and discussion with MSC

SMSF personnel. Specifically, interviews of personnel who have previously been involved with SMSF functions were necessary. Constructing the most beneficial, high-quality financial management system evaluation and recommendations required continuous liaison with the future Special Mission Support Force leadership, the primary customer of this study. Determination of financial management information requirements for the proposed system also required interviews with MSC functional staff personnel. These individuals have directed their staff's functional support effort toward delivering SMSF services in the past, so their input was crucial in that they will provide the "experienced voice" of information requirements.

The final data and information necessary to complete the collection effort involved the gathering of cost and management accounting literature. This information provided the basis for this study to conduct the evaluation and make recommendations of the Financial Management Information System (FMIS). Additionally, from the perspective of the business-like operation of DBOF military organizations, current literature in the field of management accounting provided a reference model used in an evaluation of any DBOF cost accounting system.

D. THE PRODUCT

When all data and information had been collected, compiled, synthesized, and analyzed, the thesis then began to evaluate the structure and components of the present financial management information system. Then, specific recommendations as to what will

enable the system to be more beneficial to SMSF managers under MSC's reinvented structure were provided. The product was considered complete when the following factors were considered and analyzed: all direct cost sources of providing SMSF services to customers; indirect cost sources to include SMSF overhead and general and administrative costs allocated from higher headquarters, area and sub-area commands; relevant financial performance indicators for the SMSF business line; and a logical format by which to present this information. Once complete, this study should provide MSC SMSF managers with a medium through which they can track, monitor, and control the incurred by providing services to their customers.

E. ORGANIZATION OF THE THESIS

This study is organized as follows:

- Chapter I: Introduction, Scope, and Research Questions
- Chapter II: The Military Sealift Command (General Background, The Financial Management Information System)
- Chapter III: Research Methodology
- Chapter IV: Literature Review
- Chapter V: Presentation and Analysis of the Data
- Chapter VI: Recommendations
- Chapter VII: Conclusions, Recommendations for Further Study.

II. THE MILITARY SEALIFT COMMAND (MSC)

A. MISSION AND ORGANIZATION

The Military Sealift Command (MSC) provides the Department of Defense with ocean transportation of military equipment and supplies. Its primary mission is to provide sea transportation of equipment, supplies, and ammunition to sustain U.S. Forces worldwide in peace and war for as long as operational requirements dictate [Ref. 1: p. 2]. MSC is one of three component commands reporting to the Commander-in-Chief, United States Transportation Command (USTRANSCOM). The other two major commands are the Army's Military Traffic Management Command (MTMC) and the Air Force's Air Mobility Command (AMC).

MSC has two additional major command relationships along with its position in USTRANSCOM. The Commander, MSC (COMSC) is responsible to the Assistant Secretary of the Navy for Research, Development, and Acquisition for sealift procurement policy and oversight. COMSC is also operationally responsible to the Chairman of the Joint Chiefs of Staff as a type commander for all Navy-unique fleet support. [Ref. 2: p. 7]

MSC is headquartered in Washington, D.C. and has four area commands located in London; Yokohama, Japan; Oakland, California; and Bayonne, New Jersey. Three sub-area commands are located in Norfolk, Virginia; Naples, Italy; and Guam. Within all offices

located worldwide, over 1,000 military personnel are assigned to MSC, and over 5,000 civilian personnel are employed. Of these 5,000 civil service personnel, almost 3,500 are assigned to seagoing jobs and the remainder to positions ashore. 75% of military personnel serve in departments on board MSC ships. MSC also employs over 2,200 contract mariners on MSC-operated ships in addition to the civil service employees. [Ref. 2: pp. 7-8]

MSC operates a fleet of U.S. charter ships as well as contracts with U.S. flag liner ships to provide DoD with common-user sea transportation to all military services. In peacetime, MSC maintains three distinct forces: the Strategic Sealift Force (SSF), the Naval Fleet Auxiliary Force (NFAF), and the Special Mission Support Force (SMSF).

1. The Strategic Sealift Force (SSF)

During peacetime, more than 95% of DoD's dry cargo is transported by SSF's commercial U.S.-flag liners. During wartime, the Strategic Sealift Force mission is divided into two categories, surge shipping for initial mobilization, and sustainment shipping to sustain forces fighting overseas. Surge shipping transports the oversized, bulky military vehicles and equipment while sustainment shipping moves container-type cargo required to transport daily consumption materiel. [Ref. 11: pp. 3-4]

To accomplish its missions, the Strategic Sealift Force has various types of ships that support its operations in addition to the commercial U.S.-flag liners. These ship types are the Afloat Prepositioning Force ships, which consists of 13 Maritime Prepositioning ships; two

hospital ships; two aviation logistics support ships; Fast Sealift Ships; and the Ready Reserve Force.

2. The Naval Fleet Auxiliary Force (NFAF)

The Naval Fleet Auxiliary Force (NFAF) provides routine direct support to the Navy's combatant ships to allow them to remain at sea for extended periods of time in the accomplishment of their missions. NFAF ships replenish ammunition, fuel, and food for forces afloat. Other NFAF ships conduct underwater surveillance and provide towing services. NFAF ships are manned by civilian mariners (CIVMARS), who operate the ships, and military personnel crews of up to 67 personnel who provide communications support, supply, and helicopter operations. [Ref. 11: p. 2]

3. The Special Mission Support Force (SMSF)

The Special Mission Support Force is MSC's smallest component of the three forces. Its broad mission is "to manage, operate, repair, and maintain MSC's fleet of Special Mission Ships which perform various special missions for Department of Defense customers" [Ref. 3: p. 13]. It carries out a variety of specialized missions such as oceanographic and hydrographic surveys and research, undersea surveillance, acoustic research, missile tracking, coastal surveying, and cable laying and repairing [Ref. 2: p. 29]. All of the SMSF ships are Navy-owned but they are operated by civil service mariners or contract-employed mariners. Military and civilian scientists actually carry out the specialized missions. [Ref. 1: pp. 2-3]

B. THE DEFENSE BUSINESS OPERATIONS FUND (DBOF)

MSC's operations are financed under the Defense Business Operations Fund (DBOF) concept. Under this concept, MSC has access to and uses funds from a pool of working capital, called the "fund". Funds are drawn from the pool to pay for the costs incurred to provide services to its customers. Customers are then billed for the services and repay the fund.

The DBOF concept was established so that service organizations, such as MSC, could manage their operations similar to private sector entities. The fundamental difference lies in the attainment of profit. Private firms naturally seek to maximize short- and long-term profits whereas DBOF military organizations seek to generate no profits, or "break even" financially. The DBOF and its operating policies are a central theme to this study.

The DBOF was established in October 1991 by the DoD to capitalize on the use of business-like financial management practices throughout the DoD. The overarching goal of the DBOF concept is to produce a management structure whereby DBOF activity managers are encouraged to provide quality products and services at the lowest possible cost. Within this main objective, other goals are to increase cost visibility and accountability, enhance business management, and improve the financial decision making process. [Ref. 4: p. N-5]

The DBOF is a financing mechanism that allows organizations, operating within its concept, access to its funds. In this manner, DBOF organizations do not rely on

Congressionally appropriated monies. When orders are received from customers and accepted by the DBOF organization, the cost of producing and delivering goods and services is financed by cash in the fund. When orders are received by the supporting organization, that organization increases its obligational authority, or "spending limit", by the dollar value of the order. Customers are then billed in accordance with "stabilized rates", or the rates charged by the supporting organization, and the customers then repay the fund. This revolving cycle continues, hence the DBOF is considered to be a revolving fund. [Ref. 4: p. N-5]

1. Unit Cost Resourcing

Unit Cost Resourcing is central to the DBOF concept and applies to all DBOF business areas. The goal of unit cost resourcing is to increase cost visibility, which will allow for greater control of the total costs of producing a product or service. Unit cost resourcing is based on the belief that the costs generated by an activity are related to its outputs.

Once all products and services, the "outputs", of the activity are identified, costs can be assigned to their production. Of these costs, there are direct, indirect, and general and administrative categories. Direct costs are those that can be directly associated, or "traced", to a specific type of output. Indirect costs are costs that are incurred in the production of output; however, they are associated with several different outputs and not one specific type. General and administrative costs are those costs associated with the administrative functions of the entity such as headquarters and functional staff personnel costs or other common

support functions. Indirect and general and administrative costs are allocated, or spread, over the outputs in accordance with some relevant allocation measure.

When all costs of producing goods are traced and allocated to the activity's outputs, the activity then determines the cost of producing one unit of output by dividing the total costs associated with the production of all output units by the number of total output units. When this figure is approved by the activity's higher headquarters, the cost per unit of output becomes the organization's "unit cost goal". This unit cost goal translates to the stabilized rate that customers are charged for receiving a specific type of product or service. [Ref. 4: pp. N-2-N-3]

Billing, or "stabilized" rates are also central to the DBOF concept. The billing rates must be set so that all costs of providing services to customers are recovered by the DBOF organization. The stabilized rate multiplied by the number of product or service output units provided should be equal to the total costs incurred by the organization to provide the output in a year.¹

Budgeting for future operations is another key aspect to the DBOF concept. Legitimate stabilized rates can only be determined if: 1) accurate historical financial data of providing products or services is available, and 2) future operations volume can be predicted

¹ A DBOF organization may have numerous goods or services which it provides to its customers. In this case, stabilized rates for each specific type of output unit will be developed.

or made known. Once future operations volume and historical financial data are obtained, the cost of providing these services can be estimated (inflation indices are taken into account). The stabilized rate is determined by dividing the total expected costs of providing the future services by the number of units of output the organization expects to provide. This rate then becomes the billing rate for a specific type of output for the fiscal year.

It would be naive to believe that all DBOF organizations will consistently generate zero profit, or break even each period. Therefore, a profit or loss is taken into account by incorporating it into the next year's budgeting process. Should the DBOF organization realize a profit, either by successfully controlling costs below those originally budgeted or by providing output volumes greater than expected, this profit is included into the next year's budget by reducing the expected costs of providing the future services by the exact amount of the profit. The opposite cost adjustment is budgeted if the organization realizes a loss. In this manner, DBOF organizations will "break even" in the long run as profits or losses are incorporated into the following year's budget.

Once Congress has appropriated the funds necessary to support the DBOF concept, in other words provide the DBOF pool of working capital, DBOF organizations essentially operate as financially independent entities, similar to private firms. The fund is at the organization's disposal to pay for costs of providing goods or services. Supporting organizations receive obligational authority when customers submit orders. The costs of

producing goods and services are financed through the DBOF. Customers are then billed, and their payments are expected to cover costs.

2. Earned Authority

DBOF activities are limited to the amount of funds they have access to under the “earned authority” concept. During the execution phase of the organization’s fiscal plan, the authority to draw monies from the fund depends entirely on the status of customer orders. The DBOF activity only has the authority to draw the amount of funds that is equal to the number of customer orders times the stabilized rate for that particular type of product or service requested by the customer. This authority is called the DBOF activity’s earned authority.

C. REINVENTING THE MILITARY SEALIFT COMMAND

MSC is presently organized as a traditional “functional” organization (see Figure 2.1). Under this type of organizational structure, the separate functional areas provide their specific expertise, such as operations, logistics, engineering, or contracting to all of MSC's services provided to customers. The functional directorates capitalize on pooled experience as personnel are kept within his or her directorate for long periods of time. The experience level grows with time as well. Under this structure, MSC possesses nine functional directorates that provide their specialty to the services ultimately provided to customers. The nine functional areas are:

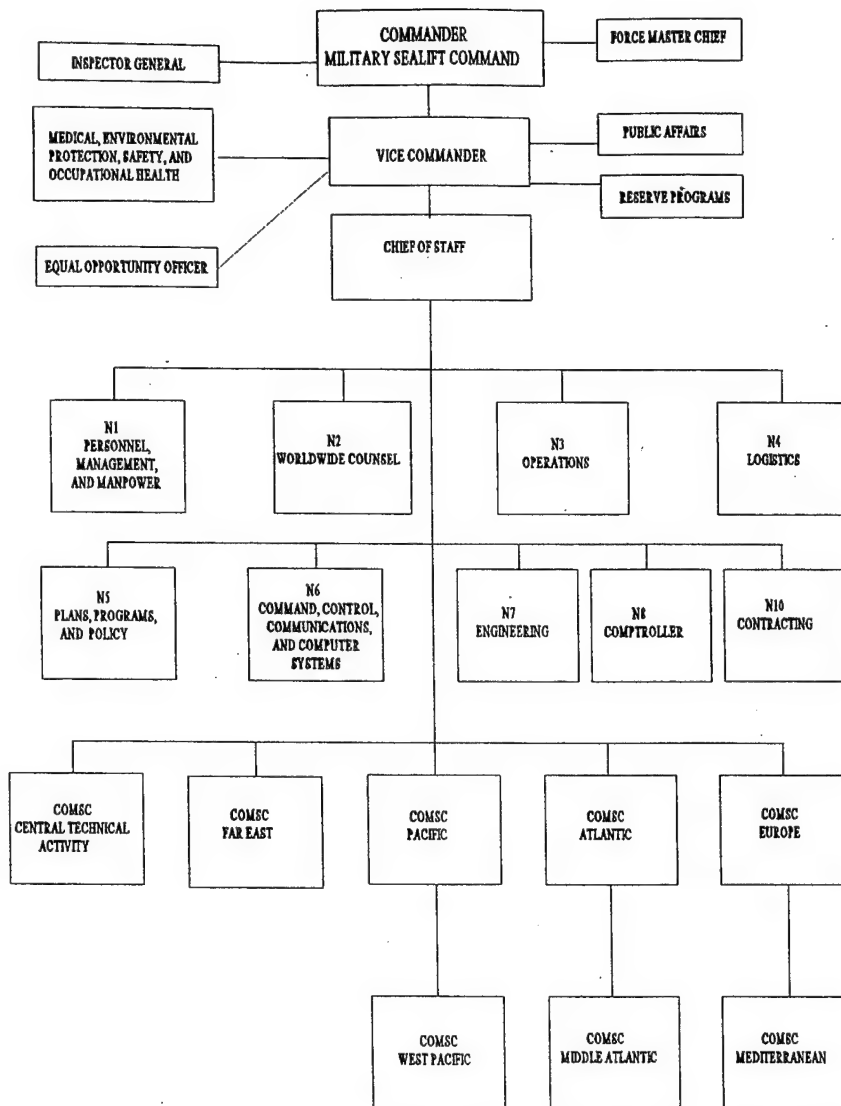


Figure 2.1. MSC's Current Organizational Structure

- N1 - Personnel, Manpower, and Management
- N2 - Worldwide Legal Support
- N3 - Operations and Plans
- N4 - Logistics
- N5 - Policy/Analysis and Congressional Liaison
- N6 - Command, Control, Communications, and Computer Systems
- N7 - Engineering
- N8 - Comptroller
- N10 - Contracts and Business Management.

1. N8, Comptroller Division of Responsibilities

Under the present organizational structure at MSC, four main divisions exist within the N8, Comptroller functional directorate. They are: the Budgeting Division, the Performance Reporting and Analysis Division, the Financial Management Analysis Division, and the Accounting Division. These divisions carry out the following tasks:

- Budgeting Division
 - Plans and Budget
 - Billing Rates
 - Fund Administration
- Performance Reporting and Analysis Division
 - Workload Reports
 - Billing Computations
 - Analysis and Charts
- Financial Management Analysis
 - Audit Liaison
 - Special Studies
 - System User Support

- Accounting
 - Program Accounting
 - Management Reports

While there are other separate functional areas within MSC that have responsibilities broken down as it is organized presently, they are not critical to this study.

2. The Pros and Cons

MSC benefits from this organizational structure in the sense that functional knowledge is centralized within each directorate. The strength of this type of structure is that core competencies within each function are held together, and well thought out and experienced advice and support can be provided to the customer as the separate functions are pooled to provide services to customers. Under this mindset, accountability and responsibility are difficult to focus as each function provides their competency to the specific service areas (for example, NFAF, SMSF, Strategic Sealift, etc.). Unless there is a breakdown specifically attributable to an individual functional directorate, pinpointing the problem may be impossible. Second, the lack of a singular manager responsible for the performance of his or her service clouds the responsibility of customer interface, a critical element of delivering quality service.

The depth of functional knowledge and experience is greatest in a functional organization. Another advantage of this type of structure is that functional managers are able to assign the most qualified personnel, possibly with a particular skill within that functional

area, to the service of his or her choice, providing that service with the most optimal resources available given MSC's personnel.

Several disadvantages are inherent under the functional organizational structure. First, a lack of unity of command or authority with respect to a particular product or service exists. While several experienced individuals may provide their expertise to providing a service to customers, no single individual is held accountable for success or failure, in all respects, for the particular service. Arguments may arise over which functional area is responsible for an inconsistency or failure in providing quality service to a customer. Likewise, difficulty may arise in assigning a function to correct any deficiencies. The converse is true as well. While it may be easy to praise a team for success, personal and functional successes may be unevenly responsible for providing quality service, and identifying this may prove difficult with the functional structure.

Another limitation of the functional structure is that no one individual exists who is responsible for integration of the separate functions. Differences over the amount of effort, number of specific functional personnel, and definition of functional area "quality" will surface. Effort and/or resources may be expended on a particular service project that is not required if this is the case. Clearly, resources expenditure above that required is wasteful.

In light of the lack of singular responsibility and the need for improved customer focus within each of MSC's services, the Commander MSC has initiated a reinvention effort

designed to transform MSC from the functional organization to a program management, or business line organization. Under this organizational structure, each of the six basic MSC services will be a program, or business line, with one program manager responsible for the program entirely, to include providing quality customer service, customer interface, and financial performance. The reinvented organizational structure will resemble Figure 2.2.

The six programs, or business lines are:

- Strategic Sealift
- Prepositioning
- Intermodal Transportation
- Ship Introduction
- Naval Fleet Auxiliary Force
- Special Mission Ship Force.

The goals for the reinvention are:

- Provide uniformly high customer satisfaction.
- Provide clear communication channels for stakeholders and customers.
- Clarify accountability, responsibility and authority.
- Provide uniformly high organizational flexibility and responsiveness.
- Streamline the organization and eliminate duplication.
- Be proactive and pursue growth opportunities.
- Take care of our people.

Several advantages are associated with this type of organizational structure. First, accountability and responsibility for the overall success or failure of each business line is clarified. Providing quality service to DoD customers in the most cost effective manner is clearly the responsibility of the business line's program manager. This individual is charged with integrating all elements and separate functions under his cognizance or within MSC's

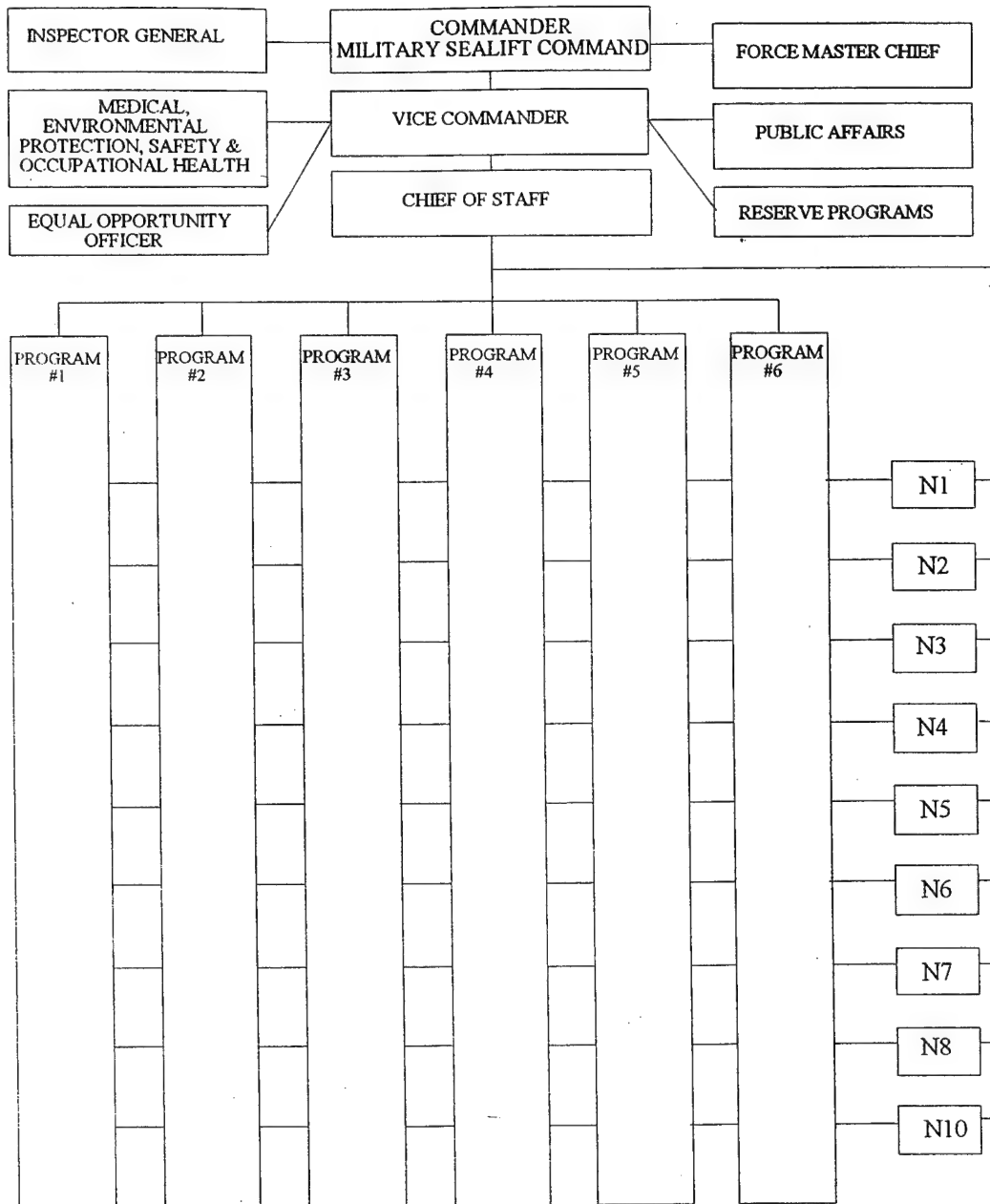


Figure 2.2. MSC's Reinvented Organizational Structure

core competencies to produce a service to customers of the highest quality. Further, he is responsible for the bottom line financial performance of his business line. While he may delegate authority to subordinates within his program or business line, the program manager is still singularly responsible to the Commander for the success or failure of his program.

In addition to financial accountability for his business line, the program manager can also more easily monitor customer satisfaction as he or she can be the single point of contact for his service. In contrast to the functional organization where points of contact for a particular service may not lie within the service itself, the program manager is solely responsible to the customer as well as to his superiors for providing quality service.

3. The Special Mission Support Force (SMSF)

The Special Mission Ship Force, the program or business line that this thesis will focus on, is one of MSC's six basic services to the DoD and has several services within its main program. These include oceanographic research, hydrographic surveys, undersea surveillance, acoustic research, missile telemetry collection, and range instrumentation. Oceanographic survey programs include acoustical, biological, physical, and geophysical programs. Oceanographic ships also conduct the U.S. Navy's deep ocean survey program to produce bathymetric charts. Finally, oceanographic ships survey the ocean floor and collect the hydrographic information necessary to chart over three-fourths of the world's coastline.

[Ref. 1: p. 29]

Missile range instrumentation ships provide platforms for missile range safety activities and the collection of telemetry data. These ships perform research for new navigational systems, monitor compliance with strategic arms treaties and domestic test programs, provide communications, flight safety, photographic coverage, and telemetry acquisition capabilities in support of fleet ballistic missile tests. [Ref. 1: pp. 29-30]

The Navy's acoustic program is supported by two oceanographic ships. As part of the Integrated Underseas Surveillance Program for the Space and Naval Warfare Systems Command, these ships tow acoustic projectors, conduct bathymetric, oceanographic and hydrographic surveys, and launch and recover remotely operated vehicles. An acoustic research vessel also supports the Naval Surface Warfare Center's sound measuring program. Finally, worldwide cable operations for the Space and Naval Warfare Systems Command are conducted by MSC's single cable ship. [Ref. 1: p. 30]

When MSC's reinvention is complete and the new organizational structure is in place, the Special Mission Ship Force (SMSF) will be one of MSC's six independent programs. Within the SMSF program, two projects, or business lines, will focus on their specific segments within SMSF. These business lines will be TAGOS and Range/Cable/Oceanographic/Charter. The SMSF structure will resemble the diagram in Figure 2.3. Additional staff expertise will be drawn from the functional staff held at MSC headquarters, and will be "matrixed" to the projects, or to the other five programs when needed.

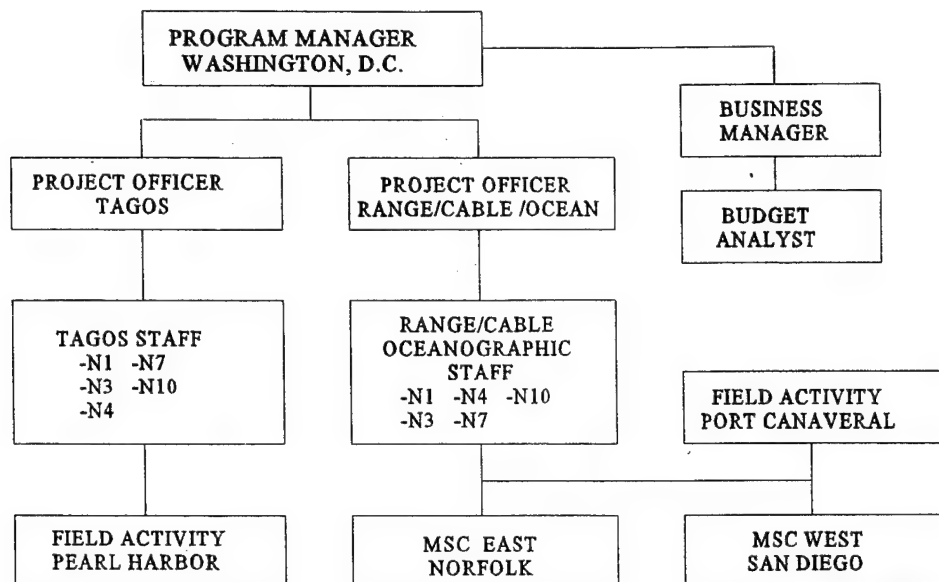


Figure 2.3. Special Mission Support Force Reinvented Structure

The matrix-type of organization provides the benefits of both the functional and program management, such as depth of functional experience and expertise (functional structure) and accountability, clear lines of communication, and unity of command (program structure).

D. THE FINANCIAL MANAGEMENT INFORMATION SYSTEM

1. General

The Military Sealift Command employs the Financial Management Information System (FMIS) as the financial information system. FMIS, while not a specific product available on the commercial market, is the name given to all of the financial applications used at MSC. FMIS is a commercial-type accrual accounting system that meets the requirements of the Defense Finance Accounting Service (DFAS), the Navy Comptroller (NAVCOMPT), and TRANSCOM [Ref. 5: p. 6]. The software package is a commercial, off-the-shelf software package developed by Computer Associates, Inc. It is a highly flexible and expandable package that can be programmed to meet the needs of its user.

FMIS is an "umbrella" term that includes numerous applications, or modules, that together make up MSC's financial information system. FMIS is contained in MSC's mainframe computer system to allow for central processing and consolidated reporting and is networked to MSC's microcomputer terminals throughout the organization. Comptroller personnel can query the system and utilize the specific modules to perform certain functions in the accomplishment of their duties.

2. FMIS Modules

Several modules exist in MSC's FMIS. These modules include: the General Ledger system, FMIS Gateway, the PAYS system, Unit Level Billing, and Basis Unit Level Billing.

Several more modules are planned and will be implemented in the future. They include: Accounts Receivable, Cargo Process System, Table Maintenance System, Funds Control, and Budget Preparation. The financial information system is adequate; however, the financial management system is incomplete, meaning that the FMIS software is powerful, flexible, and programmable and will allow MSC to fully automate its financial management information system once all business processes are defined.

3. The General Ledger

The Military Sealift Command (MSC) maintains a comprehensive list of accounts in the General Ledger module of FMIS that breaks down classes of costs and transactions into significant detail. A listing of the account groups and individual accounts is listed in the Appendix. All costs are assigned to one of these accounts when they are incurred. Each account is assigned a General Ledger Account (GLA) number. This GLA number allows a breakdown of costs by category so that internal and external financial management reports can be generated, leading to the management and control of programs and functional activities in the future.

Each transaction that takes place at MSC has a series codes that describes the transaction. Each transaction is coded by:

- Organization (MSC Headquarters, MSCPAC, MSCLANT, MSCEUR, etc.)
- Account (As depicted in the Appendix)
- Charge Code (Specific Ship, Office, Location, or Project)
- Fund Administrator

- Program (Special Missions, Naval Fleet Auxiliary Force, etc.)
- Arrangement Listing (Government-owned/Government-operated, Government-owned/Contractor-operated, etc.)
- Status (Activation, Deactivation, Full Operating Status, etc.).

These seven elements of coding blocks provides information details to users of this financial information. The coding block for MSC's FMIS transactions is shown in Figure 2.4.

The General Ledger forms the basis of FMIS. The General Ledger holds all basic transactions that MSC has engaged in. The coding block shows that all the essential information to classify and categorize financial information will be included in each transaction. Based on the elements of this coding, financial information can be separated into payables, receivables, assets, liabilities, etc. From this coding system, MSC is able to classify each transaction so that cost and management accounting and end of period financial statements can be prepared and produced. The General Ledger Account (GLA) list and GLA numbers are presented in the Appendix at the end of this thesis.

4. Revenues and Funding Methods

MSC derives its earned authority, or resource availability, through four separate mechanisms. For point-to-point transportation of cargo and supplies, per ton rates are charged on a per mile basis. Customers are charged for moving their cargo on a ton-mile basis. The NFAF, SMSF, and Strategic Sealift ships are financed through per diem rates, or customers are charged for the use of these ships by a predetermined daily rate. For exercises and other low-utilization transportation, a per diem rate is also charged.

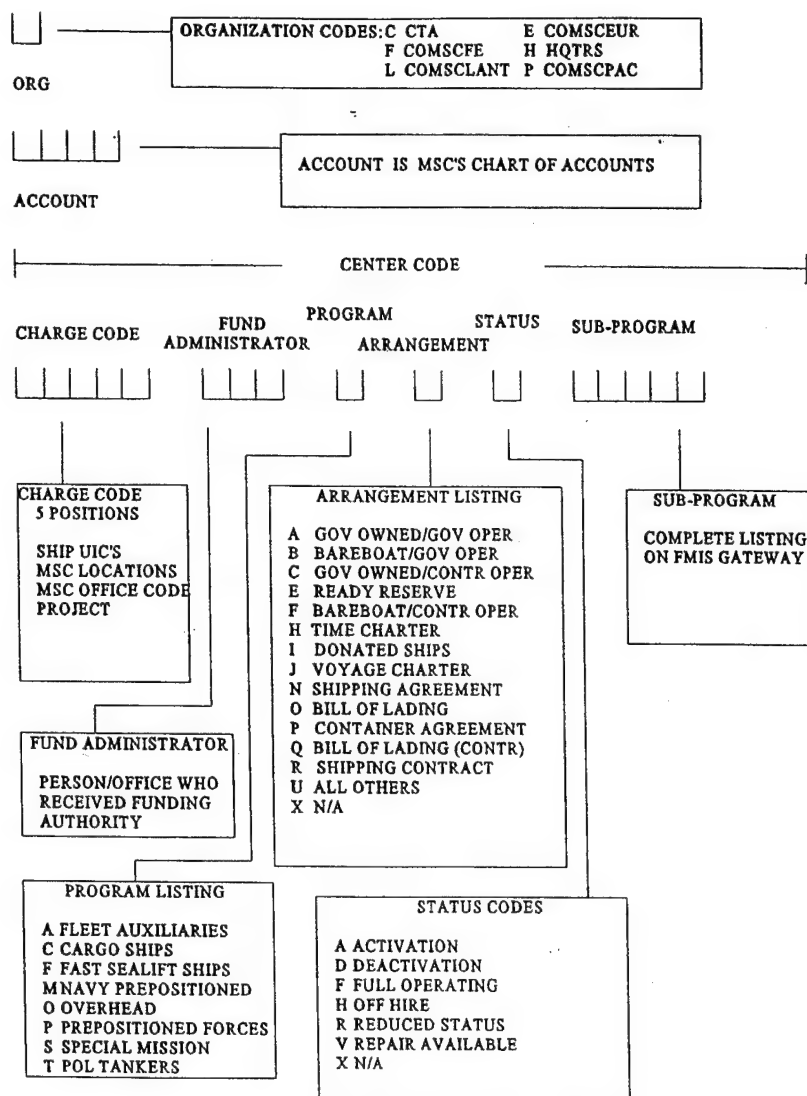


Figure 2.4 FMIS Transactions Coding Block

Finally, MSC may provide services such as unusual overhauls or modifications of ships for specific mission purposes or any other unusual service on a complete cost reimbursable basis. In this case, which is a departure from the DBOF concept, the cost of the overhaul or service is estimated by MSC, and the customer provides the funds to MSC up front in order that the service can be produced. [Ref. 28: p. 8]

5. Overhead and Overhead Allocation

MSC traces 90% of its costs directly to individual programs and allocates the remaining 10% of costs (i.e., 90% of costs are direct costs and 10% of costs are indirect costs). This 10% of MSC's total costs are accumulated into an overhead cost pool. These indirect costs are then allocated to individual programs by determining the average time percentage of the total time available for work (percentages must add to 100%) that MSC shore activities, or area commands, collectively spend working on that particular program. Then, this percentage is multiplied by the total costs in the overhead cost pool. The figure arrived at is the amount to be allocated to each program [Ref. 6: pp. 29-30]. This allocated overhead figure is important to MSC managers because it represents approximately 10% of total program costs.

E. CONTRACTING

The Central Technical Activity engages in the activities to write and actually award contracts to firms to deliver goods and services so that MSC can accomplish their mission for

its customers, or sponsors. There are two main contracts that fall under the Special Mission Support Force (SMSF) program, the Oceanographic Program and the TAGOS program. Both of these programs consist primarily of government-owned, contractor-operated vessels. The contracts basically outline the contractors' responsibilities as follows:

The contractor shall provide personnel, operational and technical support ashore and afloat, equipment, tools, provisions, and supplies to operate and maintain U.S. Naval Ships (USNS) which are public vessels of the United States Government under administrative control of the Commander, Military Sealift Command (COMSC). [Ref. 7: p. 12], [Ref. 8: p. 15]

The contracts specifically stipulate that each contractor shall submit invoices and other financial data for all applicable per diem rates and cost reimbursable items such as fuel costs, overhauls, and major industrial assistance to MSC [Ref. 8: pp. 136-145]. Per diem rate invoices may be submitted to MSC for payment every 15 days; and invoices for cost reimbursable items may be submitted as incurred [Ref. 8: p. 141]. For cost accounting purposes, the invoices must include the following information:

- Invoice date
- Invoice number
- Preparer
- Contract number
- Contract line item number (CLIN)
- General Ledger Account (GLA) number
- Vessel name
- Description of work
- Enclosures (i.e. copy of purchase order, expense breakdown by category)
- Invoice total
- Terms

- Payment remittance location [Ref. 8: pp. 216-221]

Financial data also must include what financial resources have been expended to date, what payments have been made to the contractor by MSC to date, and what payments remain outstanding [Ref. 6]. When invoices are received at MSC and when payments are made to contractors, MSC records all of this pertinent program cost information into the Financial Management Information System (FMIS) under the appropriate General Ledger Account (GLA) number.

III. RESEARCH METHODOLOGY

A. OBJECTIVE OF THE THESIS

The objective of this study is to analyze MSC's existing financial management information system and financial management processes, and to assess their adequacy for the program management organizational structure that MSC will adopt during its reinvention effort. The ultimate goal is to put in place a system that Program Managers and Project Officers of the Military Sealift Command (MSC) can use to manage their respective business lines. As such, the methodology to determine the need for the study, gather the data and information necessary to support the conclusions, and develop the analysis and recommendations itself is largely subjective in nature. No documented data base of personal opinions exists that provides an accumulation of theories, beliefs, deficiencies and cost accounting methods and tools at MSC.

MSC is reinventing its organization from the traditional functional structure to a matrix, or a hybrid functional-program management design. Presently, no specific requirements exist within the Department of Defense (DOD) or the Department of the Navy (DON) that require Comptroller or other personnel within a DOD organization to specifically design and use cost or management accounting systems. Requirements for cost accounting systems are left to the organization's discretion.

Under the Program Management structure, managers will be responsible and held accountable for the success or failure of their respective overall programs. It will be the responsibility of these managers to provide quality service to customers, and to do so for the customers and MSC at the lowest possible cost. Financial management theory (discussed in Chapter IV) states that managers need accurate, timely financial data in order to make sound business decisions. MSC, a DBOF organization and similar to private sector firms, needs such a cost and management accounting system to provide this data.

B. RESEARCH METHODOLOGY

1. Defining the Problem

This thesis begins by informally finding and defining a problem. Conjecture, say Buckley, Buckley, and Chiang, is characterized by those situations in which the decision maker has a “hunch” or “intuitive feel” regarding a potential problem area [Ref. 9: p. 18]. It is believed that MSC’s cost accounting system is inadequate or incompatible with MSC’s reinvented organizational structure.

2. Research Strategy

This study was conducted primarily in a deductive mode, which is essentially where a theory or postulate is stated, and either proved or disproved. In this thesis, testing was accomplished largely by comparing MSC’s system and practices to those documented in current literature. However, new theories or ideas were derived throughout the course of

the analysis, so an inductive, or theory generating research path will be followed as well. [Ref. 9: p. 21]

With an initial problem defined, a research strategy must be developed in order to collect the data needed to prove or disprove the postulate. The strategy that was used to collect the data included opinion, empirical, archival, and analytic research methods. First, much of the data and the need for the study's output consisted largely of opinion research, derived primarily from interviewing MSC personnel. Opinion research involves determining the views, judgements, or appraisals of persons with respect to a research problem [Ref. 9: p. 23]. The empirical data, which originated from the writer's observation and experience while at MSC, resulted from observing how the organization collects, analyzes, and reports financial data. Archival research, or the examination of recorded facts, entered into the strategy as well. Historical financial records and reports were gathered, DOD and DON financial regulations and any other MSC-specific policies and procedures were viewed, and the documents previously written in this problem area such as theses from former students or government agency reports were also obtained. Finally, analytic methods were used to break down the problem into its component parts in order to discover the reason underlying their problematic nature. [Ref. 9: pp. 25-26]

3. Conducting the Research

This study began by investigating MSC's financial system, its financial and cost reporting requirements, and the type and incorporation of a management information system, and whether or not these aspects will change under the reinvented organizational structure. The opinion, archival, and empirical strategies formed the data collection method in this case. Sources of this information were personnel located at MSC headquarters in Washington, D.C., the DOD Financial Management Regulations, the Navy Comptroller Manual (NAVCOMPTMAN), copies of financial and any cost reports made available by MSC, and any other internal regulations or documents.

a. Interviews of MSC Managers and Personnel

Several interviews with MSC managers and personnel were conducted. These interviews, which lasted from one to three hours, were informal in nature. After introducing the thesis topic and its specific scope, the author began the interviews asking numerous questions. Information was recorded by taking notes of responses made by those interviewed. While no specific conditions of anonymity were made, the sources of critical information or other data that could have potential adverse affects were not disclosed.

General background information concerning financial management processes and the Financial Management Information System (FMIS) was obtained first. This information was gathered by interviewing managers and personnel within the N8, Comptroller

and the N6, Command, Control, Communications, and Computer Systems functional directorates. Specific interviews were conducted with the following personnel at COMSC:

- three senior managers and personnel within the N8, Comptroller functional directorate
- a senior manager within the N6, Command, Control, Communications, and Computer Systems functional directorate.

Several questions were asked of the N8, Comptroller personnel. Examples of some of the questions are:

- Does MSC have an automated financial information system?
- What functional directorate, or who conducts the budgeting, resource allocation, financial analysis, and program performance evaluation functions?
- Does MSC require each program or service to financially break even under the DBOF concept, or can each program or service incur profit or loss as long as MSC in total breaks even?
- Does MSC plan to reinvent its financial management processes, or will these functions essentially remain intact under the new reinvented organizational structure?

Examples of questions asked of the N6 manager were:

- Is the Financial Management Information System (FMIS) adequate to meet the needs of financial managers and is it flexible (programmable) enough to allow for changes to, or modifications of business processes?
- What are all the elements of the FMIS?
- Are financial transactions coded or formatted to allow for automated classification of revenues and costs?

These interviews, combined with financial reports, regulations, and public affairs information provided the necessary background information to describe MSC, the services that it provides to sponsors, the existence and adequacy of a cost accounting system,

and allowed for recommendations for an updated or improved system that will allow future program, project, and business managers to better manage their respective areas.

b. Literature Review

One of the main goals of this study was to incorporate current private sector cost accounting practices into MSC's Financial Management Information System (FMIS). So, a significant portion of the information needed to develop an understanding of these methods was gathered from existing literature, an archival strategy. The writer related the practices of private industry and incorporated proven management and cost accounting techniques into MSC's systems.

The processes of reengineering and reinvention were be reviewed in the current literature as well. The focus here was to seek out specific references to financial management with respect to reinvention and reengineering. As such, much of the data developed as a result of a review of business and accounting literature, periodicals, journals, and other publications described the role of financial management systems in organizational effectiveness through reinvention or reengineering. The intent was to establish a foundation upon which to base an analysis and make recommendations concerning MSC's financial management information system so that future program managers under the reinvented structure will have an adequate system to use in managing the operations of the future separate programs.

c. ***Financial Management Information Requirements of the Special Mission Ship Force***

After background information was obtained and the need for a cost accounting system had been identified, specific financial information was sought. This data included actual financial and cost reports produced by MSC, data on specific accounts within MSC's accounting system to include how these accounts may be grouped for specific MSC services, and opinions of personnel working specifically in, or close to the Special Mission Support Force program. During this portion of the study, opinion, archival, and empirical methods were called upon. While opinion and archival methods are self-explanatory, empirical evidence was gathered at MSC locations and through contact with appropriate personnel. The opinions related to the financial management information requirements of Program Managers, Project Officers, and Business Managers. These personnel were asked specific questions concerning the direct and indirect costs of their programs, how revenues are generated, and whether or not they felt if some form of cost tool is required to manage their programs. The interviews were conducted similarly to the initial interviews described above.

Interviews to gather the aforementioned data were conducted with:

- a contracting specialist in the Central Technical Activity (CTA), COMSC
- two senior managers and personnel within the N3, Operations and Plans, COMSC functional directorate who have worked within the Special Missions program
- two senior managers and within the N7, Engineering, COMSC functional directorate who have worked within the Special Missions program

- a senior manager within the N3, Operations and Plans, MSC LANT functional directorate who has worked within the Special Missions program
- a senior manager within the N7, Engineering, MSC LANT functional directorate who has worked within the Special Missions program.

Examples of specific questions that were asked of these personnel are:

- What are the direct and indirect costs associated with the Special Missions program and what are their associated cost drivers?
- Do you have access to FMIS and does it provide you with timely, accurate, and usable financial information?
- What information do internal financial management reports provide?
- Do the “Budget Variance Reports” provide usable and relevant program information?
- What kinds of financial management information, and in what format will that information be required by future program managers?

Operations and Engineering personnel have knowledge and strong opinions as to the financial information requirements of managers within the SMS program; their opinions provide for credible data concerning information requirements.

4. The Analysis

With all raw data gathered, the next step in the methodology was to compile the information, look for any trends or recurring themes, and see if any serious deficiencies exist within MSC financial system, or to specifically engage in analytic research. From this compilation, conclusions were drawn concerning the existence and adequacy of MSC’s existing cost accounting system. Once a conclusion was reached as to the existence and adequacy of MSC’s cost accounting system, recommendations concerning modifications, additions, or improvements to MSC’s system that will allow future program managers’

abilities to manage their programs were offered. The new or improved system was based upon the review and foundation of the current business practices. The study further attempted to develop financial measures of effectiveness.

The final step in the methodology was to translate the cost accounting recommendations into a format that allowed them to be programmed into the existing financial management information system by the information systems designers. The product was considered complete when it fully evaluated MSC's present system and made recommendations for improvements to that system that could be incorporated into MSC's Financial Management Information System (FMIS).

C. LIMITATIONS OF THE STUDY

This thesis is primarily concerned with the adequacy and timeliness of the information presented or available to MSC's future program, project, and business managers that is produced by MSC's Financial Management Information System presently. The primary sources of data were managers interviewed by the author and copies of internal management reports. Several recommendations were made concerning existing reports as well as for newly constructed reports. General conclusions such as the timely sharing and complete dissemination of program financial information and the need to have all programmatic financial information included in those reports was widely supported by the data. Specific report proposals are presented in a generic format and are not tailored to the individual needs

of the program, project, and business managers as these needs can only be defined throughout the course of managing actual operations. Due to the limited amount of time and resources available to conduct this study, potentially critical data may not have been obtained or made available. However, conclusions and recommendations were made based on the information obtained.

IV. LITERATURE REVIEW

A. REENGINEERING AND REINVENTING THE BUSINESS

1. Introduction

"Business reengineering means starting all over, starting from scratch" [Ref. 10: p. 2].

"Reengineering can't be carried out in small and cautious steps. Its an all or nothing proposition that produces dramatically impressive results" [Ref. 10: p. 5]. Improvements aren't made in small, incremental iterations; but in large and drastic jolts that will generally redefine the processes and structures that the organization has become used to during its existence. Business reengineering is about abandoning the old rules and ways in which tasks were carried out to deliver goods and services to customers, and redefining how the organization wants to accomplish and organize its work in order to succeed in today's environment [Ref. 10: pp. 2-3]. "Reengineering is the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance such as cost, quality, service, and speed." [Ref. 10: p. 32]

Many believe that reengineering is synonymous with down-sizing, right-sizing, restructuring, or reorganizing. This is not necessarily the case. Reengineering, according to Hammer and Champy, is about looking into the processes and activities that a business conducts in order to bring their product to market, and redesigning or redefining them from

scratch. Rules, regulations, and procedures defining the old way of doing business are discounted. A new process consisting of only the minimum number of required value-adding activities, conducted by the person or persons closest to the customer is the desired end result. All waste, bureaucracy, and internal obstacles are to be eliminated.

Reengineering also ignores the barriers that previously separated the organization's individual functions and departments. The reengineered organization doesn't care about "this department's responsibility", "that function's tasks", or departmental or functional boundaries. The reengineered organization is concerned only with establishing the most streamlined process, devoid of no-value-adding activities, and providing the customer with the highest quality, highest value product possible. "Reengineering's focus is on improving total process performance, not task efficiency" [Ref. 13: p. 9]. While the reengineered organization will usually not resemble its former state in terms of structure or number of persons employed, reduced manning levels and changed organizational charts are possible outcomes of reengineering's goal, but not the goals themselves. A reengineered business process may actually require more people and tasks than the previously designed process, but this is unlikely.

According to Hammer and Champy, corporations that strive for dramatic improvements don't ask questions such as "How can we do this task at a lower cost?" or "How can we make this process faster?" These organizations ask themselves "Why do we

do this at all?" [Ref. 10: p. 4] Instead of attempting to make small, incremental improvements in existing processes governed by entrenched policies and procedures, making drastic improvements requires that previously held assumptions about the processes must be ignored. In fact, the policies and procedures may even be outdated, invalid, or no longer apply due to obsolete assumptions governing the processes themselves. Certain steps in a process may not be required if the assumptions governing its procedure are challenged. The process itself may not add value from the customers' point of view; so why waste resources on performing it? If certain activities are undertaken to satisfy a bureaucrat or higher level manager, and the activities add no value to the product or service that an organization offers to customers, this activity should not be a part of the business process. It adds no value therefore it is waste.

2. History No Longer Applies

"The ironic truth is that American companies are now performing so badly precisely because they used to perform so well" [Ref. 10: p. 10]. For many years, especially since the Industrial Revolution, American firms were the leaders in product development and manufacturing. Their leaders established large organizations, factories, and assembly lines, to build products and bring them to market. The United States enjoyed explosive growth and maintained the world's highest standard of living.

During the growth of industrial America, firms established hierarchies, layers of management, rules, policies and procedures. Labor was divided and grouped into similar

tasks and functions. Explicit plans were devised to ensure that the workers did their jobs and tasks in accordance with management's plans. The number of tasks grew, and the processes that encompassed all these individual tasks became more complicated. The management of these processes became more difficult. More layers of supervisors were needed to oversee more complicated functions. Additional rules guided the additional supervisors. "Before long, simple procedures are too complex for employees to navigate, so we hire more budget analysts, personnel experts, and procurement officers to make things work" [Ref. 11: p. 4]. The corporate leaders became further removed from customers. Customers didn't have as many choices in suppliers, so their bargaining power was small relative to the large firms producing the products and services.

America was successful. Her large, multi-layered organizations were effective for a time period when competition was not as intense as is now. These types of organizations are having difficulty being effective in today's fast-paced environment. The number of firms offering goods and services has increased, which gives the customer greater bargaining power. The customer can shop around for the highest product quality, most responsive customer service, all at the best value relative to other firms supplying the identical or substitute goods and service.

The firms that are the most responsive to customer desires, produce the highest quality, all at the lowest cost will be successful. Organizations that are slow and hindered by

their own bureaucracy will be beaten by the competition. "The altered expectations of customers who now have more choices than ever before have combined to make the goals, methods, and basic organizing principles of the classical American corporation sadly obsolete" [Ref. 10: p. 10]. It is these organizations that must reengineer.

Hammer and Champy state that three forces, separately and in combination, drive today's companies into unfamiliar territories. These forces are: customers, competition, and change. [Ref. 10: p. 17]

In today's environment, customers have greater choice when they desire to purchase goods or services. Firms supplying identical or substitute products are increasing in number, shifting the bargaining power from producers to consumers. Customers are now in a position to demand higher quality, lower cost, and greater attention to their individual needs. Customers, either individuals or organizations, want individual attention as well as unique products that fit their needs. If firm X cannot deliver a high quality product at an acceptable cost, firm Y will.

Competition has not only intensified, but niche producers have entered the market as well. Customers can now seek products that more closely fit their needs. So, past or former customers are now drawn away by organizations supplying niche or specialized goods.

Change, the final of the three forces, is now the normality [Ref. 10: p. 23]. New products and firms supplying them come to market more quickly. Innovations create obsolescence with lightning speed. The rate of change of "change" has also increased.

When combining the three forces, one can easily see that firms bogged down in their own bureaucratic structures, policies, and procedures governing their product development and market introduction will be slow and ultimately beaten by those whose only rule is to beat the competition. "Today, companies must move fast, or they won't be moving at all" [Ref. 10: p. 23].

Hammer and Champy state that the winning companies know how to do their work better than the losers. Their central message is that organizations should not look to improve the individual steps in the process, but they must analyze their processes and organize work around them. Further, they state that the reengineering efforts must be focused on processes, not departments of individual functions in the organization.

Reengineering the organization is difficult. One factor that is necessary in any reengineering effort is executive leadership with vision [Ref. 12: p.112]. Many individuals in the organization will not want such drastic change. They have a vested interest in maintaining the status quo. Implementing change will increase their workload in the short term. Top level managers must push the change, drive out fear, and convince the organization that change will brighten the organization's future.

Reengineering applies not only to profit-seeking firms, but to any organization with a process that transforms inputs to outputs. Certain organizations, where profits are not the primary objective, might be called mission-driven organizations. These may be government agencies, hospitals, universities, and schools. These entities are primarily motivated to perform their mission more effectively and efficiently [Ref. 13: p. 275]. Reengineering applies to these organizations similar to profit-seeking firms. Mission-driven organizations can redefine the core processes by which work is performed and make significant breakthroughs in effectiveness and efficiency through reengineering.

3. The National Performance Review

In Vice President Al Gore's report of the National Performance Review, From Red Tape to Results: Creating a Government, he states:

From the 1930's to the 1960's, we built large, top-down, centralized bureaucracies to do the public's business. They were patterned after the corporate structures of the age: hierarchical bureaucracies in which tasks were broken into simple parts, each the responsibility of a different layer of employees, each defined by rules and regulations. With the rigid preoccupation with standard operating procedure, their vertical chains of command, and their standardized services, these bureaucracies were steady--but slow and cumbersome. And in today's world of rapid change, lightning-quick information technologies, tough global competition, and demanding customers, large, top-down bureaucracies, public or private, don't work very well. [Ref. 11: p. 3]

Vice President Albert Gore expressed his opinions that government agencies have built organizational structures that now hinder more than aid these agencies from effectively and efficiently accomplishing their missions. To reinvent government, the Vice President has

established principles upon which the reinvention will take place. He says that the U.S. will invent a government that puts people first by:

- Cutting unnecessary spending
- Serving its customers
- Empowering its employees
- Helping communities solve their own problems
- Fostering excellence. [Ref. 11: p. 7]

To accomplish these objectives, the Vice President has spelled out broad guidelines under which federal managers will conduct their business. These guidelines are:

- Create a clear sense of vision
- Steer more, row less
- Delegate authority and responsibility
- Replace regulations with incentives
- Develop budgets based on outcomes
- Expose federal operations to competition
- Search for market, not administrative solutions
- Measure our success by customer satisfaction. [Ref. 11: p. 7]

Perhaps the most significantly relevant relevant information included in the The Report of the National Performance Review to this study is Mr. Gore's ideas on how to empower employees to achieve results. He says that empowerment can be achieved only after organizational culture is changed, and to change this culture, Mr. Gore offers six steps. They are:

- Give decisionmaking power to those who do the work, pruning layer upon layer of management overgrowth.
- Hold every organization and individual accountable for clearly understood, feasible outcomes.
- Give federal employees better tools for the job--the training to handle their

own work and to make decisions cooperatively, good information, and the skills to take advantage of modern computer and telecommunications technologies.

- Make federal offices a better place to work by extending flexibility not only to the definition of job tasks but also those workplace rules and conditions that still convey the message that workers aren't trusted.
- Forge a partnership between labor and management.
- Offer top-down support for bottom-up decisionmaking. [Ref. 11: p. 68]

The third step, giving federal workers the tools to do their jobs, includes giving managers the right kinds of information to manage their programs. "Management isn't about guessing, its about knowing. Those in positions of responsibility must have the information they need to make good decisions. Good managers have the right information at their fingertips. Poor managers don't." [Ref. 11: p. 82]. Management information is critical to making informed decisions. Without timely, accurate management information, decisions will be made either too late or inaccurately, possibly undermining the quality or value of the products being supplied to your customers.

The Report of the National Performance Review makes recommendations for streamlining government that closely parallel principles of reengineering. Several specific similarities exist. Some examples are:

- Both reengineering and the Report of the National Performance Review say that decision making authority should be vested in those who actually do the work and who are closest to the customer
- Measure success by customer satisfaction
- Eliminate non-value adding activities (this can be viewed as unnecessary layers of bureaucracy in government or in a private firm)
- Challenge the rules and assumptions that govern and define the way work has

- previously been accomplished
Provide those individuals who are closest to the customer with the tools and information to provide the best possible products and services.

B. FINANCIAL MANAGEMENT INFORMATION

1. Introduction

One of the examples of the similarities that exists between the Report of the National Performance Review and principles of reengineering, described above, is that individuals who are closest to the customer must be provided with the tools and information to provide the best possible products and services. This implies that managers must be familiar with the most advanced financial management techniques and have access to timely, accurate, and usable financial information in order to successfully manage the programs.

In 1994, the Chief Financial Officers Council adopted the following vision for financial management:

Enabling government to work better and cost less requires program and financial managers, working in partnership using modern management techniques and integrated financial management systems, to ensure the integrity of information, make decisions, and measure performance to achieve desirable outcomes and real cost effectiveness [Ref. 14: p. 1].

In order to meet program goals and deliver goods and services in meeting the nation's priorities,

financial management systems must process, track, and provide accurate, timely, internally consistent, and readily accessible information on financial activity in the most cost-effective and efficient manner. These systems should not only support the basic accounting functions for accurately recording and reporting financial

transactions but must also be a vehicle for integrated budget, financial, and performance information that managers use to make decisions on their programs.
[Ref. 14: p. 3]

Financial management information is an absolute requirement for any organization's management cycle, or the choosing of program priorities and objectives, planning and execution a strategy, and monitoring of performance. The management cycle requires the collecting, accumulating, reporting, and sharing of information of all kinds to ensure managers have appropriate data to make decisions in each phase of the cycle. Without it, budgets, plans, objectives, and performance criteria would be, at best, random guesses with no logical basis.

2. Financial, Cost, and Management Accounting

To begin the discussion of financial management and financial management information requirements, several accounting terms should be clarified. The accounting system is the principle, and most credible, quantitative information system in almost every organization. This system should provide information for four broad purposes:

- Internal routine reporting to managers for (a) cost planning and cost control of operations and (b) performance evaluation of people and activities.
- Internal routine reporting to managers on the profitability of products, brand categories, customers, distribution channels, and so on. This information is used in making decisions on resource allocation and in some cases decisions on pricing.
- Internal nonroutine reporting to managers for strategic and tactical decisions on such matters as formulating overall policies and long-range plans, new product development, investing in equipment, and special orders or special situations.

- External reporting through financial statements to investors, government authorities, and other outside parties. To satisfy external purposes, businesses must report income and inventory costs in accordance with the generally accepted accounting principles that guide financial accounting. [Ref. 15: p. 4]

Financial accounting focuses on external reporting through financial statements to investors, government authorities, and other outside parties [Ref. 15: p. 942]. It focuses on what has happened in the past. **Management accounting** focuses on internal customers; it measures and reports financial and other information that assists managers in fulfilling goals of the organization [Ref. 15: p. 944]. It is concerned with the first three purposes of the accounting system. **Cost accounting** is management accounting plus a part of financial accounting-to the extent that cost accounting provides information that helps the requirements of external reporting [Ref. 15: p. 940]. Cost accounting is concerned with all four purposes of the accounting system. Finally, a cost accounting system is the system that allows the organization to collect, accumulate, and report cost information.

3. Costs

A **cost**, according to Horngren, Foster, and Datar, can be defined as a resource sacrificed or forgone to achieve a specific objective [Ref. 15: p. 26]. In financial management situations, managers may wish to know the cost of something, such as a particular product or service. This product or service is called a **cost object**. A cost object can be defined as anything for which the separate measurement of costs is desired [Ref. 15: p. 26]. Cost objects are chosen to aid managers in decision making.

Cost accumulation is the collection of cost data in some organized way through an accounting system [Ref. 15: p. 27]. **Cost assignment** encompasses both tracing accumulated direct costs to a cost object and allocating accumulated indirect costs to the cost object. **Direct costs** are those costs that are associated only with the cost object in question. **Tracing** direct costs to the cost object is the assignment of direct costs to the cost object. **Indirect costs** are costs that are related to the cost object, but are also related to other cost objects. **Allocating** indirect costs to the cost object is the assignment of indirect costs to the cost object [Ref. 15: pp. 27-29]. A **cost driver** is any factor that affects costs. That is, a change in the cost driver will cause a change in the total costs of the cost object in question [Ref. 15: p. 29].

Costs that are accumulated and assigned to a cost object can take on one of two basic cost behavior patterns. They can be either variable costs or fixed costs. A **variable cost** is a cost that will vary, or fluctuate in total proportion to the changes in its associated cost driver. A **fixed cost** is a cost that does not change with a change in associated cost driver. [Ref. 15: pp. 29-30]

C. THE MANAGEMENT CYCLE

A grouping of activities that an organization executes in the process of meeting its goals and objectives can be thought of as a management cycle. The management cycle typically includes four general categories of activities. They are:

- determining organizational priorities and objectives concerning what business to compete in and what products to deliver
- planning for the priorities and objectives which includes program planning, performance determination, resource estimation, and information needs
- program execution, or putting the plan into action and accumulating and reporting financial transactions internally and externally
- and performance evaluation such as customer satisfaction, profits, effectiveness, and efficiency [Ref. 14: p. 5].

These activities can be described as a cycle because the completion of one group of activities generally leads to the next. For example, an organization would typically first decide which business to compete in or which products to offer to potential future customers. Next, the organization would plan for producing, organizing, and delivering the goods and services which would probably include estimating resources to be consumed, projected sales volumes for the planning period, revenues, and an overall financial budget.

The organization would then begin its operations and produce and deliver the goods and services. Costs of production and distribution and data from all other financial transactions would be collected and compiled in the organization's accounting system. Finally, the organization would, from time to time and definitely at the end of finite operating periods, compare the actual results to either budgeted, estimated, forecasted, or standard performance to measure their accomplishments. Other non-financial performance measures such as customer satisfaction would be sought as well.

In order to engage in the management cycle activities, the organization's accounting system must provide managers with the critical financial management information. This

information forms the foundation upon which budgeting, allocating resources during operations, and evaluation of programs is based.

1. Determining Program Priorities and Objectives

The determination of program priorities and objectives would be an organization's logical starting point in the management cycle [Ref. 14: p. 6]. Specific functions and associated activities to implement the organization's priorities and objectives will be established here, as well as altered, increased, reduced, or abolished should the organization be in a subsequent iteration of the management cycle. On an initial iteration, the organization will be devoid of internally produced, historic operational information because it has yet to compete in its chosen business area. But, financial management information is critical here. Without it, the organization will be unable to determine the effectiveness and efficiency of programs to meet the desired goals and objectives. Informed decisions cannot be made without management information consisting of feedback from recent and past operations. Decisions will be made with incomplete information, possibly leading to the wrong decisions. [Ref. 14: p. 6]

2. The Planning Phase

After the organization has determined which business to compete in, including specific program objectives and priorities, the next group of activities is centered around the planning and budgeting aspects of the cycle. Several activities can be included and should be

accomplished here. Some examples, as stated previously are: program planning and budgeting, resource determination, and performance measures determination.

Budgeting, or the process by which “managers assure that resources are obtained and used efficiently and effectively in the accomplishment of the organization’s objectives” [Ref. 16: p. 138], can be used for three purposes in an operational sense: planning, motivation, and evaluation [Ref. 16: p. 138]. Considering planning, budgets will be the organization’s roadmap leading to the accomplishment of goals and objectives. The budget will include an estimation of future business, or operating, volumes, resources required to produce the goods and services associated with those volumes, and the projected revenues received in conjunction with selling the product. Through budgeting, managers can both identify resources that will be necessary to achieve objectives and learn how those resources must be applied [Ref. 16: p. 138]. Effective budgeting requires accurate information on past operating volumes, the costs associated with producing those volumes, and the effects of pricing on future business volumes.

Motivation is another role of the budget in an organization. Gaining commitment from managers and employees to a predetermined plan (i.e., the budget), the budget can have an inspiring effect on them, provided the managers participated in the budget formulation process. Many organizations tie the managers’ performance appraisals to the budgets [Ref. 16: p. 138]. Specific functions or directorates within the organization may have definitive

cost or profit targets to be achieved within the overall budget. Accomplishing these targets may be the basis for an individual's success within the organization.

a. Responsibility Centers

Different subunits or functions within an organization may budget, or be budgeted for various types of financial responsibility. Some types of financial responsibility centers include: standard cost centers, revenue centers, discretionary expense centers, profit centers, and investment centers. [Ref. 17: p. 77]

Standard cost centers are normally used by a production facility where numerous identical items are mass-produced. Historical data is compiled and a "standard" quantity is determined for direct labor and materials for each output unit. The facility manager is accountable for, and his performance will be judged upon deviations, or "variances", from the standard. [Ref. 17: p. 77]

Sales departments best illustrate the concept of a **revenue center**. Here, the manager has a specified expense budget that he cannot exceed; and he is expected to maximize his sales revenues without decreasing prices to increase sales volumes. The manager's performance appraisal is tied to the revenues he generates. [Ref. 17: p. 77]

A **discretionary expense center** will be used for a department or function where there is no distinct relationship between inputs and outputs, such as in an administrative or other department that provides services to other departments within the organization..

Management sets, or allocates the department a budget, or financial resources, and the manager is expected to maximize the level and value of services provided. His performance appraisal, which is subjective in nature, is associated with top management's assessment of the quality and quantity service provided. [Ref. 17: p. 77]

Profit centers may provide a mechanism for the most objective determination of successful or poor performance. Under the profit center concept, the manager is responsible for the profitability of his or her department or unit within the organization. Costs and revenues are budgeted based on historical data. A bottom-line profit target is set which becomes the financial target for the entire department. The manager's performance is tied to deviations from the profit target. [Ref. 17: p. 77]

Finally, **investment center** managers are responsible for the return on the assets employed [Ref. 17: p. 77]. Tradeoffs are made between current profits and capital investments aimed at increasing future profitability and growth. Investment center performance appraisal may be more subjective than with profit or standard cost centers as judging future profitability based on new investments is an uncertain process.

3. Program Execution

After the budget and performance measures have been established, the organization executes the plan. Orders for goods and services are taken by the organization. Goods and services are produced and delivered to the customers. Financial transactions are recorded in

the organization's accounting system. Program, product, department, and function costs are accumulated, categorized, summarized, and reported internally to managers. When operating results are known, the feedback, performance evaluation, and corrective action activities can begin.

4. Feedback, Evaluation, and Corrective Action

When the data and information concerning the results of the organizations's operations become available, the organization can assess its performance to determine whether or not program goals and objectives have been met. Several factors can be investigated to allow managers to obtain a complete picture of the organization's performance (of course, these factors should be developed during the planning activities phase of the management cycle). Robert S. Kaplan and David P. Norton have developed a comprehensive set of measures that can be tailored to any organization. The set of performance measures, called the "Balanced Scorecard", includes a customer focus (performance from customers' perspective) such as time to meet customers' needs, quality, service, and cost; an internal business perspective such as processes, decisions, and actions occurring throughout the organization; an innovation and learning perspective which identifies and considers parameters most important for competitive success through growth and improvement; and a financial perspective such as profitability, cash flow, growth, and shareholder value. [Ref. 18: pp. 71-77]

5. The Management Control System

All of the activities described in the management cycle above can be grouped under an organization's management control system. All of the organizational structures, policies, procedures, and rules make up a framework that is referred to as a management control system. A management control system can be defined as "a process by which managers assure that resources are obtained and used effectively in the accomplishment of the organization's objectives." [Ref. 19: p. 2]

Management control focuses on three important aspects of an organization. First, management control is pragmatic, not an abstract process or procedure; so it is meant to achieve goals within the organization's internal and external environment. Next, management control is focused on results, specific to individual departments and to the organization as a whole. Finally, management control is focused on the people within the organization, because it is the people who ultimately determine organizational success or failure. [Ref. 20: p. 2]

According to Robert B. Anthony,

The management control process is intended to make possible the achievement of planned objectives as effectively and efficiently as possible within these givens. The purpose of a management control system is to encourage managers to take actions that are in the best interests of the company [Ref. 19: p. 2].

Anthony further states that "with rare exceptions, the management control system is built around a financial structure; that is, resources and outputs are expressed in monetary units"

[Ref. 19: p. 3].

Finally, Anthony expresses his opinion concerning which types of cost information is needed for management control. He says there are three types:

- Costs by responsibility centers, used for planning and controlling the activities of responsible supervisors
 - Full program costs, used for pricing and other operating decisions in normal circumstances
 - Direct program costs, used for pricing and other operating decisions in special circumstances, such as when management wishes to utilize idle capacity.
- [Ref. 19: p. 3]

All of the activities included in the management cycle are included in an organization's management control system. These activities are intended to ensure managers take actions that lead to the accomplishment of the organization's goals. While not necessarily a rigid, documented program, the management control system is the glue that ties managers' actions to organizational goals. Specifically, management control systems includes policies, procedures, plans, and rules that govern actions of personnel in the accomplishment of the organization's goals. Operating budgets and performance and evaluation criteria and measures are examples of management control system elements put in place by the organization to ensure actions taken are in accordance with overall goals.

V. PRESENTATION AND ANALYSIS OF THE DATA

A. RECURRING OPINIONS AND THEMES OF MSC MANAGERS

A large portion of the data gathered for this thesis was obtained through interviews with personnel within Headquarters, MSC in Washington, D.C. and at MSC, Atlantic in Bayonne, N.J. Several popular opinions and themes seemed to stand out after compiling this interview data.

1. Reinvention

For the reinvention effort to be successful, the interview data suggested that the headquarters element must maintain a robust personnel group to allow the functional directorates to successfully devise and implement policy. The corporate knowledge must be maintained to an extent, which will allow for adequate support to be provided to the program and project managers. If corporate knowledge is lost, certain efficiencies, such as functional area problem solving, will be lost. The real question to be addressed within this issue is: "what is the optimal personnel plan for the new reinvented organizational structure?" While this thesis does not address this issue in detail, personnel assignments under the reinvented organizational structure is a major concern.

The establishment of clear lines of authority and lines of communication will also be a significant requirement for the success of MSC's reinvented organizational structure.

Program and project managers must have the leadership and functional support from the Commander and the headquarters staff for their programs and projects to be responsive to customer needs, and be both effective and efficient. Program and project managers should not be accountable to the headquarters functional staff outside of routine reporting of financial and other periodic information. Functional personnel matrixed to a specific program should be accountable to program managers for support provided.

2. Financial Management Information Requirements

The interview data also suggested that timely, accurate financial and non-financial management information will be required by the program, project, and business managers under MSC's reinvented organization.

Several elements of financial management information will be required at all times by future program managers. The information can be broken down into a few main categories for each program:

- Funds availability/funds balance (revenues from sponsor orders or reimbursable work)
- Maintenance and Repair costs (M&R)
- Personnel costs
- Petroleum, Oil, and Lubrication (POL)
- Port costs
- Status of sponsor reimbursables
- Balances payable to contractors
- Overhead costs.

These categories of financial information will be required under both the per diem rate structure and within the sponsor reimbursables category. In either case, the program, project, and business managers still require a complete knowledge of the availability of funds, the accumulation of costs to date, and the elements of cost that are included in overhead charged to their respective program. This information is required by these managers for several reasons. These reasons were discussed in previous chapters, but some examples that fall within the scope of the management cycle as described in Chapter IV are:

- management and control of present operations
- the comparison of actual revenues, costs, and profits to budgeted revenues, costs, and profits for performance evaluation purposes
- budgeting for future operating periods and establishing per diem rates
- so that managers will have data to allow for standardization of practices and for determining whether other suppliers can deliver goods and services more economically in the future.

Several other reasons that managers will need the aforementioned financial data, aside from management cycle issues are:

- cost control for all categories of cost
- prevention of poor decisions in the future
- Effective management of sponsor reimbursable funds.

The elements of cost, with the exception of overhead allocated to programs, are largely controllable by program managers at MSC. Armed with timely, accurate, and usable financial information, managers within the Special Mission Ships² program will be able to

² Readers are reminded that although the Special Missions Ship Force program is the focus of this study, these arguments apply to all of MSC's programs.

more effectively control and manage costs. Knowledge of costs exceeding or below budgeted or planned figures will alert the managers to the possible need of corrective action. Without the information, or being made aware of this pertinent data too late in the business cycle, managers will not be capable of effectively managing their programs in a timely manner. Budgeting for future operations, per diem rate setting, control, and performance evaluation as described in Chapter IV will be based on incomplete data and will probably be ineffective.

The establishment of per diem rates must accurately reflect the true costs of providing goods and services to customers. Without historical program data and financial information, the full costs to deliver services to customers are not known. As such, “budget padding”, or overstating the future costs of providing goods and services may have occurred. The effect of budget padding can result in the customer being charged excessively high rates for the services they request. Accurate historical financial information will allow the program managers to effectively assess the true full cost of providing those services in the past, allowing for legitimate budgeting and rate setting for future services.

Employees interviewed stated that sponsors have been begging MSC to control costs for a long time, but this has been difficult because no one has been managing costs on a programmatic basis. The functional directorates were not held accountable in the past for funds management of entire programs. However, the program managers under the reinvented organizational structure will be. In order to control program or project costs, the program

manager needs to know all aspects of his program, particularly the financial aspect. The program manager cannot control costs unless costs are known. As such, MSC must ensure that managers have timely and accurate cost data.

A greater knowledge of costs and their respective drivers will prevent poor decisions being made on the basis of improperly perceived problems. For example, personnel manning levels have been reduced in the past, largely a result of higher personnel costs. Without investigation, this action may seem appropriate. However, the fact that personnel costs were higher than originally budgeted may be the result of Special Mission ships coming in and out of port during periods where overtime would be charged, as well as higher port services costs. A knowledge of this scheduling situation, along with associated costs, would allow managers to take actions targeting ways to manage schedules and the resulting costs. This would negate the desire to cut manning levels. The possible uninformed decision to cut personnel may adversely affect MSC's ability to deliver quality service to the sponsor, possibly leading to the sponsor's failure to accomplish his mission. Interview data suggests that overtime costs can be managed if overtime costs are known early on.

3. Sponsor Reimbursables

Another area that frequently was discussed during interviews and deserves attention is sponsor reimbursables. Reimbursables are an important part of the Special Missions program [Ref. 20]. In many instances, the specialized nature of Special Missions activities

requires that MSC do unplanned work, such as a special overhaul or an installation of some particular piece of scientific equipment. If this work requirement is unknown prior to the budgeting period and not part of the services that MSC plans to provide to the sponsor, the sponsor will reimburse MSC for the work after MSC has it done. These type of activities fall into the "sponsor reimbursable" category. In this category, MSC will estimate the costs of performing the work. The sponsor will then provide the funds to MSC prior to the work being accomplished. MSC contracts with the facility to perform the work, who will provide MSC with an invoice detailing the work performed once completed. MSC, using the sponsor's funds, pays the bill. Any funds remaining are to be returned to the sponsor.

MSC has not been timely in returning the sponsor's unused resources. This serves to tie up sponsor funds that could be applied elsewhere as the sponsor attempts to execute other plans. In the worse case scenario, the failure to return unused sponsor funds prior to the end of a fiscal year will serve to expire that amount of the sponsor's operating budget. This represents a major mismanagement of funds. Severe animosities have and will result in either case. The data suggests that MSC needs a system to allow for proper management in this type of case.

B. FINANCIAL MANAGEMENT AT MSC TODAY

1. The Financial Management Information System (FMIS)

a. Adequacy of System to Produce Timely, Accurate, Usable Financial Information

The Financial Management Information System (FMIS) is a flexible and programmable cost accounting system that can be tailored to meet MSC's cost and financial accounting needs as Chapter II describes. The key to FMIS providing timely, accurate, and usable financial management information lies in the General Ledger Account (GLA) classification coding as depicted in Chapter II of this thesis. Each transaction is coded by:

- Organization (MSC Headquarters, MSCPAC, MSCLANT, MSCEUR, etc.)
- Account (As depicted in the Appendix)
- Charge Code (Specific Ship, Office, Location, or Project)
- Fund Administrator
- Program (Special Missions, Naval Fleet Auxiliary Force, etc.)
- Arrangement Listing (Government-owned/Government-operated, Government-owned/Contractor-operated, etc.)
- Status (Activation, Deactivation, Full Operating Status, etc.).

This coding allows for the accumulation of costs, assigning those costs to cost objects, and the subsequent internal and external reporting of financial information. The coding scheme allows for breaking the costs out by individual ship, program or function, specific General Ledger Account, or any other cost object that the user desires, provided that the information has been properly entered into FMIS.

The General Ledger module of FMIS is a crucial subject to this thesis. It establishes the overall adequacy of MSC's accounting system to provide all of the information needed by managers to budget; establish per diem rates; financially evaluate programs, project, and individual ships; and to determine more economical future supplier alternatives.

The General Ledger module is the heart of MSC's FMIS. While the interviewees report that the FMIS does not presently produce all of the required financial management information to effectively manage all aspects of the services provided to customers, the system can be tailored and programmed to meet new or changing requirements at MSC as discussed in Chapter II.

b. Access to FMIS

Personnel interviewed stated that the program and project managers will need timely access to the FMIS and all of the N8, Comptroller financial information generated for their respective programs in order to effectively control costs, establish per diem rates reflecting the true costs of providing services to customers, evaluate performance, manage sponsor reimbursables, and manage their programs in general. At present, only the N6, Command, Control, Communications, and Computer Systems; N7, Engineering; N8, Comptroller; N10, Contracting; and the Central Technical Activity functional directorates have access to FMIS. Program, project, and business managers must have access to FMIS under the new reinvented organizational structure. The data shows that not all management

personnel presently have access or the ability to query the system, as stated previously. While all functions are provided with copies of internally generated management reports, timely dissemination of critical financial management information can only be achieved by allowing the individuals requiring it to be capable of immediately obtaining it.

Almost without exception, individuals interviewed during the data gathering phase of this study concluded that real, or near-real time financial management information must be available in order to control costs, manage sponsor reimbursables, and manage and control their overall programs. Armed with timely, accurate, and usable information, these managers felt that they could effectively:

- Control and manage costs in all categories
- Accurately budget and plan for operations in the future
- Establish per diem rates that reflect the true cost of providing the services to sponsors
- Manage sponsor reimbursable projects
- Determine program effectiveness, efficiency, and overall success
- Prevent overall poor decisions that have been a result of a lack of timely information.

These individuals felt all elements of cost, with the exception allocated overhead, are largely controllable if proper information is made available on a timely basis.

2. Internal Financial Management Reports and Information

The Military Sealift Command produces numerous types of reports to provide management personnel with information needed to manage and control the separate programs that MSC engages in to provide goods and services to sponsors.

a. The Budget Variance Report by Funds Administrator and Charge Code

The first report is a “Budget Variance Report by Funds Administrator and Charge Code”. This report depicts all costs of a funds administrator, such as the director of a functional directorate or a future program manager, and charge code, such as a specific ship. Figure 5.1 shows a sample of this report for the N6, Command, Control, Communications, and Computer Systems functional directorate.

As Figure 5.1 shows, all costs incurred by N6 are displayed, compared to a budgeted quantity, and shows a variance for the month and year-to-date time frames. This type of report is generated for each functional directorate, such as N1, N3, N7, and CTA, at MSC. A report for each functional directorate is not shown because the format, and not the content, is what the author wishes to display.

Managers will need a breakdown of all direct costs incurred by their programs or functions. The Budget Variance Report by Funds Administrator and Charge Code displays this information. For example, Figure 5.1 shows all of the budgeted and actual direct costs incurred by the N6 functional directorate. With this information, N6 managers can determine if N6 is over or under budget for the period, and by how much. This report also specifically depicts individual budget or expense items, such as General Ledger Account (GLA) 6541, ADP Equipment Maintenance and Repair (M&R), the fourth report line item, that may have been over or under spent. This information is essential in that it provides cost visibility to

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MILITARY SEALIFT COMMAND
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***** GAO - M6 (C45) *****

CHARGE		SELECTED MONTH FIGURES				YTD FIGURES				TOTAL
CODE	ACCOUNT DESCRIPTION	BUDGETED	ACTUAL	UNDER/(OVER)	%MONTH	BUDGETED	ACTUAL	UNDER/(OVER)	%YTD	YEARLY BUDGET
COMSEC										
00033	6522 SOFTWARE EXP TO E15K	60,000.00	4,823.39	55,176.61	92%	274,000.00	134,534.88	139,465.12	51%	300,000.00
00033	6529 NON SHIP ADP	90,000.00	74,781.04	15,218.96	17%	420,000.00	1,004,823.33	(584,823.33)	139%	600,000.00
00033	6531 REINS SHIP EOPGE	0.00	0.00	0.00	0%	0.00	7,511.80	(7,511.80)	0%	0.00
00033	6541 ADP EOPM N & R	30,000.00	46,222.99	(16,222.99)	54%	340,000.00	112,905.01	227,094.99	67%	400,000.00
00033	7012 DATA COMMUNICATIONS	41,000.00	0.00	41,000.00	100%	339,000.00	41,556.54	297,443.46	88%	350,000.00
00033	7013 VOICE COMMUNICATIONS	75,000.00	0.00	75,000.00	100%	596,000.00	303,381.40	292,618.60	49%	741,000.00
00033	7014 INMARSAT	70,000.00	0.00	70,000.00	100%	155,000.00	0.00	155,000.00	100%	175,000.00
00033	7015 ADP MOPEX	325,000.00	29,559.34	295,440.66	91%	1,950,000.00	1,003,006.72	946,993.28	49%	2,509,000.00
00033	7016 ADP SERVICES	700,000.00	353,004.60	346,995.40	50%	8,833,500.00	5,675,717.73	3,157,782.27	36%	10,233,500.00
***	CHARGE CODE TOTAL ***	1,391,000.00	508,391.36	882,608.64	63%	12,907,500.00	8,283,437.41	4,624,062.59	64%	15,299,500.00
OPERATIONS										
03000	6545 CONTAINER N & R	0.00	0.00	0.00	0%	0.00	429.28	(429.28)	0%	0.00
***	CHARGE CODE TOTAL ***	0.00	0.00	0.00	0%	0.00	429.28	(429.28)	0%	0.00
C45 ADP/COMM										
06000	6111 BASE PAY CLASS	0.00	62,197.70	(62,197.70)	0%	0.00	664,940.91	(664,940.91)	0%	0.00
06000	6112 BASE PAY UNCLASS	0.00	(189.66)	189.66	0%	0.00	9,008.98	(9,008.98)	0%	0.00
06000	6121 OT CLAS	0.00	2,085.22	(2,085.22)	0%	0.00	17,854.64	(17,854.64)	0%	0.00
06000	6124 NEW SUG CLAS	0.00	0.00	0.00	0%	0.00	1,697.00	(1,697.00)	0%	0.00
06000	6125 PERF AWD CLAS	0.00	50.00	(50.00)	0%	0.00	15,350.00	(15,350.00)	0%	0.00
06000	6126 HOLIDAY PAY CLASSIFI	0.00	4,416.24	(4,416.24)	0%	0.00	36,466.68	(36,466.68)	0%	0.00
06000	6137 HOLIDAY PAY UNCLASSI	0.00	0.00	0.00	0%	0.00	110.50	(110.50)	0%	0.00
06000	6171 ANH LV ERNO CLASS	0.00	4,856.88	(4,856.88)	0%	0.00	53,559.27	(53,559.27)	0%	0.00
06000	6172 CT TKN CLASS	0.00	1,334.39	(1,334.39)	0%	0.00	10,869.45	(10,869.45)	0%	0.00
06000	6173 SICK LV TKN CLASS	0.00	805.34	(805.34)	0%	0.00	25,590.73	(25,590.73)	0%	0.00
06000	6175 OTHR LV TKN CLASS	0.00	23.76	(23.76)	0%	0.00	2,211.43	(2,211.43)	0%	0.00
06000	6181 ANH LV ERNO UNCL	0.00	0.00	0.00	0%	0.00	261.72	(261.72)	0%	0.00
06000	6183 SICK LV TKN UNCL	0.00	0.00	0.00	0%	0.00	834.07	(834.07)	0%	0.00
CHARGE										
CODE	ACCOUNT DESCRIPTION	BUDGETED	ACTUAL	UNDER/(OVER)	%MONTH	BUDGETED	ACTUAL	UNDER/(OVER)	%YTD	YEARLY BUDGET
62381	6529 NON SHIP ADP	0.00	12,045.00	(12,045.00)	0%	0.00	205,902.70	(205,902.70)	0%	0.00
62381	6541 ADP EOPM N & R	0.00	29,680.00	(29,680.00)	0%	0.00	296,630.00	(296,630.00)	0%	0.00
62381	6910 OTHER TVL	0.00	10,989.14	(10,989.14)	0%	0.00	33,669.14	(33,669.14)	0%	0.00
62381	6911 TRAVEL TRANSPORTATIO	0.00	285.20	(285.20)	0%	0.00	285.20	(285.20)	0%	0.00
62381	6912 TRAVEL OTHER	0.00	1,809.00	(1,809.00)	0%	0.00	1,809.00	(1,809.00)	0%	0.00
62381	7008 RENT LEASE	0.00	6,000.00	(6,000.00)	0%	0.00	60,000.00	(60,000.00)	0%	0.00
62381	7012 DATA COMMUNICATIONS	0.00	21,170.00	(21,170.00)	0%	0.00	211,660.00	(211,660.00)	0%	0.00
62381	7013 VOICE COMMUNICATIONS	0.00	56,969.20	(56,969.20)	0%	0.00	563,759.30	(563,759.30)	0%	0.00
62381	7016 ADP SERVICES	0.00	29,545.00	(29,545.00)	0%	0.00	290,535.00	(290,535.00)	0%	0.00
***	CHARGE CODE TOTAL ***	0.00	172,476.38	(172,476.38)	0%	0.00	1,676,418.72	(1,676,418.72)	0%	0.00
PACIFIC										
62383	6521 ADP SUPPL	6,667.00	0.00	6,667.00	100%	66,670.00	0.00	66,670.00	100%	80,000.00
62383	6522 SOFTWARE EXP TO E15K	10,000.00	0.00	10,000.00	100%	100,000.00	0.00	100,000.00	100%	120,000.00
62383	6529 NON SHIP ADP	37,500.00	0.00	37,500.00	100%	375,000.00	0.00	375,000.00	100%	450,000.00
62383	6541 ADP EOPM N & R	5,833.00	0.00	5,833.00	100%	58,330.00	0.00	58,330.00	100%	70,000.00
62383	7012 DATA COMMUNICATIONS	13,333.00	0.00	13,333.00	100%	133,330.00	0.00	133,330.00	100%	160,000.00
62383	7013 VOICE COMMUNICATIONS	66,667.00	0.00	66,667.00	100%	666,670.00	0.00	666,670.00	100%	800,000.00
62383	7014 INMARSAT	417.00	0.00	417.00	100%	4,170.00	0.00	4,170.00	100%	5,000.00
62383	7016 ADP SERVICES	58,333.00	0.00	58,333.00	100%	583,330.00	0.00	583,330.00	100%	700,000.00
***	CHARGE CODE TOTAL ***	198,750.00	0.00	198,750.00	100%	1,987,500.00	0.00	1,987,500.00	0%	2,385,000.00
ETA										
62387	6522 SOFTWARE EXP TO E15K	0.00	2,355.40	(2,355.40)	0%	0.00	131,768.74	(131,768.74)	0%	0.00
62387	6529 NON SHIP ADP	0.00	119,877.16	(119,877.16)	0%	0.00	241,526.10	(241,526.10)	0%	0.00
62387	7012 DATA COMMUNICATIONS	0.00	9,966.52	(9,966.52)	0%	0.00	18,336.71	(18,336.71)	0%	0.00
62387	7013 VOICE COMMUNICATIONS	0.00	10,275.28	(10,275.28)	0%	0.00	98,085.67	(98,085.67)	0%	0.00
62387	7016 ADP SERVICES	0.00	980,225.29	(980,225.29)	0%	0.00	10,431,857.97	(10,431,857.97)	0%	0.00
***	CHARGE CODE TOTAL ***	0.00	1,122,699.65	(1,122,699.65)	0%	0.00	10,921,575.19	(10,921,575.19)	0%	0.00

Figure 5.1. Budget Variance Report by Funds Administrator and Charge Code (N6)

REPORT: 180022
 PERIOD: 10 FY95
 DATE: 09/28/95
 TIME: 07:21:17

MILITARY SEALIFT COMMAND
 BUDGET VARIANCE REPORT
 BY FUNDS ADMINISTRATOR & CHARGE CODE
 EXPENSE FOR FUND ADM'N 060 PROGRAM 0

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 08/15/95
 15:37:48

***** 060 - N6 (C45) *****

		SELECTED MONTH FIGURES				YTD FIGURES				TOTAL
CHARGE CODE	ACCOUNT DESCRIPTION	BUDGETED	ACTUAL	VAR UNDER/(OVER)	2MONTH	BUDGETED	ACTUAL	VAR UNDER/(OVER)	YTD	YEARLY BUDGET
EUROPE										
62522	6522 SOFTWARE EXP TO E15K	833.00	(678.66)	1,511.66	181X	8,330.00	0.00	8,330.00	100X	10,000.00
62522	6529 NON SHIP ADP	2,500.00	3,235.21	(735.21)	29X	25,000.00	12,061.72	12,938.28	52X	30,000.00
62522	6537 ADP EOP RENT SVC	0.00	245.00	(245.00)	0X	0.00	245.00	(245.00)	0X	0.00
62522	6541 ADP EOP M & R	2,917.00	276.00	2,641.00	91X	29,170.00	(10,305.80)	39,475.80	135X	35,000.00
62522	6553 SOFTWARE APP	0.00	753.61	(753.61)	0X	0.00	753.61	(753.61)	0X	0.00
62522	6554 SOFTWARE OPERATING	0.00	(74.95)	74.95	0X	0.00	(74.95)	74.95	0X	0.00
62522	7012 DATA COMMUNICATIONS	5,167.00	(20,999.97)	26,166.97	506X	51,670.00	0.00	51,670.00	100X	62,000.00
62522	7013 VOICE COMMUNICATIONS	26,250.00	(84,855.57)	111,105.57	423X	262,500.00	0.00	262,500.00	100X	315,000.00
62522	7014 INMARSAT	833.00	0.00	833.00	100X	8,330.00	0.00	8,330.00	100X	10,000.00
62522	7016 ADP SERVICES	1,667.00	5,039.15	(3,372.15)	202X	16,670.00	0.00	16,670.00	100X	20,000.00
62522	7046 DATA COMM. NAVY	0.00	23,333.30	(23,333.30)	0X	0.00	23,333.30	(23,333.30)	0X	0.00
62522	7048 VOICE COMM NAVY	0.00	24,798.67	(24,798.67)	0X	0.00	24,798.67	(24,798.67)	0X	0.00
62522	7049 VOICE COMM NON-NAVY	0.00	66,013.97	(66,013.97)	0X	0.00	66,013.97	(66,013.97)	0X	0.00
62522	7061 ADP SERVICE OTHER NA	0.00	(5,109.10)	5,109.10	0X	0.00	(5,109.10)	5,109.10	0X	0.00
62522	7065 ADP SERVICE OTHER	0.00	69.95	(69.95)	0X	0.00	69.95	(69.95)	0X	0.00
	*** CHARGE CODE TOTAL ***	40,167.00	12,046.61	28,120.39	70X	401,670.00	111,786.37	289,883.63	28X	482,000.00
CONUS/CDR										
62537	6529 NON SHIP ADP	0.00	1,575.00	(1,575.00)	0X	0.00	13,550.03	(13,550.03)	0X	0.00
62537	6541 ADP EOP M & R	0.00	32.84	(32.84)	0X	0.00	2,735.02	(2,735.02)	0X	0.00
	*** CHARGE CODE TOTAL ***	0.00	1,607.84	(1,607.84)	0X	0.00	16,285.05	(16,285.05)	0X	0.00
MSCO BENELUX										
63369	6529 NON SHIP ADP	0.00	225.00	(225.00)	0X	0.00	3,012.00	(3,012.00)	0X	0.00
	*** CHARGE CODE TOTAL ***	0.00	225.00	(225.00)	0X	0.00	3,012.00	(3,012.00)	0X	0.00
MSCO SWA										
68953	6529 NON SHIP ADP	0.00	450.00	(450.00)	0X	0.00	3,675.00	(3,675.00)	0X	0.00
68953	6541 ADP EOP M & R	0.00	0.00	0.00	0X	0.00	(50.00)	50.00	0X	0.00
	*** CHARGE CODE TOTAL ***	0.00	450.00	(450.00)	0X	0.00	3,625.00	(3,625.00)	0X	0.00
S/L MIS										
SHISS	7016 ADP SERVICES	0.00	0.00	0.00	0X	0.00	237,780.13	(237,780.13)	0X	0.00
	*** CHARGE CODE TOTAL ***	0.00	0.00	0.00	0X	0.00	237,780.13	(237,780.13)	0X	0.00
	*** FUND ADMIN TOTAL ***	1,629,917.00	2,160,324.73	(530,407.73)	33X	15,296,670.00	25,188,249.63	(9,891,579.63)	65X	18,166,500.00
	*** GRAND TOTALS ***	1,629,917.00	2,160,324.73	(530,407.73)	12X	15,296,670.00	25,188,249.63	(9,891,579.63)	65X	18,166,500.00

Figure 5.1 (Cont.)

managers for individual budget items as well as for the entire functional directorate. This information will allow these managers, who are in a position to influence future costs and their associated cost drivers, to take actions to control costs.

The information displayed in Figure 5.1 provides N6 managers with financial information critical to controlling N6-specific costs. For example, GLA 6541, ADP Equipment M&R is over budget for the month period shown. If managers are made aware of this information in a timely manner, they can begin a search determine why the item is over budget and they can take actions to influence the N6 personnel in the future to ensure that costs are kept within budget. For example, N6 managers can trace this cost overrun back to M&R invoices to determine if the proper maintenance was completed. They could possibly compile all M&R costs and form a baseline figure to negotiate more economical, future long-term ADP M&R contracts which might reduce costs in this category. While numerous actions may be taken by managers to control costs, the critical point that this study wishes to present is that functional or program managers under MSC's reinvented structure must have accurate and usable cost information presented to them in a timely manner. This type of information is, in fact, provided in the recurring "Budget Variance Report by Funds Administrator and Charge Code" as displayed in Figure 5.1. While it does provide essential information, this report is limited because it does not, by itself, provide the reasons for cost overruns. Discovering reasons for cost overruns is not within the scope of this study.

b. The Budget Variance Report by Account and Charge Code

Figure 5.2 is a “Budget Variance Report by Account and Charge Code”. This report displays Overhaul costs, GLA 6601, for MSC’s ships. Again, a budgeted amount, actual costs, and a variance between the two are displayed for the month and year-to-date time frames. This type of report is generated for each GLA number, such as Overhaul (GLA 6601), Drydock (GLA 6602), and Voyage Repairs (GLA 6603). A report for each account and charge code is not provided. The author wishes to provide format, not specific costs in each account.

Program and project managers under the reinvented structure, such as the Special Mission Ships Program Manager or the TAGOS Project Manager, also need tools to provide program, project, or ship cost visibility broken out by individual accounts. The “Budget Variance Report by Account and Charge Code” provides the total budgeted and actual costs of a single General Ledger Account for all the ships in his or her program or project, as well as the variance, or difference, between the two. This information allows program managers to assess financial performance in specific areas of his or her program, such as overhauls, drydock, or voyage repairs; and it provides historical information to establish budgetary costs for those same accounts in the future. This data, similar to the previous report, provides essential information. This information displays how well specific categories of activities are managed. For example, the program manager may wish to know

REPORT: 180019
 PERIOD: 11 FY95
 DATE: 09/26/95
 TIME: 08:43:26

MILITARY SEAL/11 COMMAND
 BUDGET VARIANCE REPORT
 BY ACCOUNT AND CHARGE CODE
 MFR THRU AUGUST 1995 (ALL PROGRAMS)

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 09/18/95
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***** 6601 - OVERHAUL ***

		SELECTED MONTH FIGURES				YTD FIGURES				TOTAL	
CHARGE CODE	DESCRIPTION	BUDGETED	ACTUAL	UNDER/(OVER)	MONTH	BUDGETED	ACTUAL	UNDER/(OVER)	YTD	YEARLY BUDGET	
01735	RANGE SENTINEL	0.00	12,565.00	(12,565.00)	0X	1,542,000.00	280,338.00	1,261,662.00	82X	1,542,000.00	
03952	ONSEVY ISLAND	0.00	0.00	0.00	0X	2,023,000.00	1,985,958.28	37,041.72	2X	2,023,000.00	
05858	KILAUEA	0.00	0.00	0.00	0X	0.00	79,323.43	(79,323.43)	0X	0.00	
12607	VANGUARD	33,893.00	0.00	33,893.00	100X	1,447,499.00	164,690.00	1,282,809.00	89X	1,480,300.00	
20113	FLINT AE 32	0.00	0.00	0.00	0X	0.00	0.00	0.00	0X	0.00	
20252	WILKES	0.00	0.00	0.00	0X	0.00	0.00	0.00	0X	514,000.00	
20705	S/L ARABIAN	0.00	0.00	0.00	0X	0.00	1,133,000.00	(1,133,000.00)	0X	0.00	
20706	S/L CHINA SEA	0.00	0.00	0.00	0X	124,182.00	990,000.00	(865,818.00)	697X	124,182.00	
20707	S/L INDIAN OCEA	0.00	0.00	0.00	0X	0.00	1,049,679.00	(1,049,679.00)	0X	0.00	
20708	S/L ATLANTIC	0.00	0.00	0.00	0X	0.00	990,000.00	(990,000.00)	0X	1,753,562.00	
20709	S/L MEDITERRANE	0.00	0.00	0.00	0X	0.00	990,000.00	(990,000.00)	0X	1,651,643.00	
20710	S/L CARIBBEAN	0.00	0.00	0.00	0X	0.00	990,000.00	(990,000.00)	0X	1,753,562.00	
20711	S/L ARCTIC	0.00	0.00	0.00	0X	0.00	990,000.00	(990,000.00)	0X	1,753,562.00	
20712	ANTARCTIC	0.00	0.00	0.00	0X	0.00	990,000.00	(990,000.00)	0X	1,753,562.00	
20870	S/L PACIFIC	0.00	0.00	0.00	0X	0.00	1,096,000.00	(1,096,000.00)	0X	0.00	
21010	PONANTAN	0.00	0.00	0.00	0X	668,200.00	335,010.00	333,190.00	50X	668,200.00	
21014	NARRAGANSETT	70,680.00	(45,087.11)	115,767.11	164X	777,480.00	1,847,115.77	(1,069,635.77)	138X	848,100.00	
21015	CATAWA	55,620.00	5,600.00	50,020.00	90X	412,480.00	25,893.80	386,586.20	96X	468,200.00	
21016	NAVAJO	59,970.00	30,044.00	29,926.00	50X	659,670.00	47,839.00	611,831.00	93X	719,600.00	
21051	NOMANUK	51,400.00	0.00	51,400.00	100X	565,400.00	480,216.00	85,184.00	15X	616,800.00	
21090	STOLX	68,530.00	17,178.00	51,352.00	75X	753,830.00	1,028,634.70	(274,804.70)	36X	822,400.00	
21091	APACHE	0.00	72,053.00	(72,053.00)	0X	616,800.00	374,985.00	241,815.00	39X	616,800.00	
21179	STALWART	0.00	(390,000.00)	390,000.00	0X	0.00	0.00	0.00	0X	0.00	
21306	INVICTIBLE	0.00	0.00	0.00	0X	565,400.00	0.00	565,400.00	100X	565,400.00	
21307	HENRY KAISER	0.00	0.00	0.00	0X	0.00	542,742.00	(542,742.00)	0X	0.00	
21323	ZEUS	0.00	(15,934.26)	15,934.26	0X	1,192,500.00	853,407.40	339,092.60	28X	1,192,500.00	
21375	VEGA	0.00	(45,090.56)	45,090.56	0X	0.00	(45,090.56)	45,090.56	0X	0.00	
21377	LENNHALL	0.00	0.00	0.00	0X	1,028,000.00	502,856.00	525,144.00	51X	1,028,000.00	
21419	JOSH HUMPHREYS	0.00	0.00	0.00	0X	0.00	666,588.00	(666,588.00)	0X	0.00	
21469	HIGGINS	0.00	178,569.30	(178,569.30)	0X	0.00	1,703,167.93	(1,703,167.93)	0X	0.00	
CHARGE CODE	DESCRIPTION	BUDGETED	ACTUAL	UNDER/(OVER)	MONTH	BUDGETED	ACTUAL	UNDER/(OVER)	YTD	YEARLY BUDGET	
21651	SATURN	0.00	153,159.00	(153,159.00)	0X	0.00	158,125.00	(158,125.00)	0X	0.00	
21663	WILLIAM BUTTON	0.00	0.00	0.00	0X	0.00	710,009.17	(710,009.17)	0X	0.00	
21812	NATES	52,386.00	0.00	52,386.00	100X	566,106.00	36,080.00	530,026.00	94X	616,800.00	
21814	VICTORIOUS	0.00	(140.00)	140.00	0X	0.00	(140.00)	140.00	0X	0.00	
21844	MCNOMMELL	0.00	0.00	0.00	0X	308,400.00	86,637.00	221,763.00	72X	308,400.00	
21845	LITTLENALES	26,193.00	0.00	26,193.00	100X	283,053.00	262,065.00	20,988.00	7X	308,400.00	
21856	GUADALUPE	0.00	0.00	0.00	0X	0.00	1,000.00	(1,000.00)	0X	0.00	
21857	PATUXENT	0.00	15,815.00	(15,815.00)	0X	0.00	15,815.00	(15,815.00)	0X	0.00	
21866	ABLE	0.00	0.00	0.00	0X	668,200.00	827,361.10	(159,161.10)	24X	668,200.00	
21867	EFFECTIVE	0.00	0.00	0.00	0X	0.00	0.00	0.00	0X	0.00	
21869	YUKON	118,650.00	(12,725.89)	131,375.89	111X	1,305,150.00	403,550.90	901,599.10	69X	1,423,800.00	
21903	WATERS	0.00	0.00	0.00	0X	1,500,000.00	0.00	1,500,000.00	100X	1,500,000.00	
22123	CONCORD	0.00	0.00	0.00	0X	2,056,000.00	3,834,469.14	(1,778,469.14)	87X	2,056,000.00	
22194	HARS	124,820.00	0.00	124,820.00	100X	1,373,020.00	0.00	1,373,020.00	100X	1,497,800.00	
22195	SAN DIEGO	0.00	0.00	0.00	0X	0.00	1,128,314.00	(1,128,314.00)	0X	0.00	
22196	SAN JOSE	154,200.00	17,435.00	136,765.00	89X	1,696,200.00	6,210,772.57	(4,514,572.57)	266X	1,850,400.00	
22197	NIAGARA FALLS	68,530.00	709,292.39	(640,762.39)	935X	753,830.00	4,211,457.57	(3,457,627.57)	459X	822,400.00	
42487	IMMORTAL	0.00	0.00	0.00	0X	565,400.00	310,803.56	254,596.44	45X	565,400.00	
46373	DARNELL	0.00	0.00	0.00	0X	0.00	0.00	0.00	0X	1,668,144.00	
46374	BUCK	0.00	0.00	0.00	0X	1,591,044.00	0.00	1,591,044.00	100X	1,591,044.00	
46375	COBB	0.00	0.00	0.00	0X	0.00	(1,250.02)	1,250.02	0X	0.00	
46376	MATTHIESON	0.00	0.00	0.00	0X	0.00	67,182.16	(67,182.16)	0X	1,668,144.00	
74027	SILAS BENT	0.00	0.00	0.00	0X	700,000.00	1,190,946.00	(490,946.00)	70X	700,000.00	
74030	KANE	0.00	815.00	(815.00)	0X	0.00	306,314.00	(306,314.00)	0X	0.00	
ALCF1	FSS CRANE	0.00	(0.01)	0.01	0X	0.00	0.02	(0.02)	0X	0.00	
*** ACCOUNT BALANCE ***		3,960,213.00	9,602,876.24	(5,642,663.24)	142X	77,415,332.00	93,443,811.50	(16,028,479.50)	21X	93,828,305.00	

Figure 5.2 Budget Variance Report by Account and Charge Code (GLA 6601 Overhaul)

REPORT: T80019
 PERIOD: 11 FY95
 DATE: 09/26/95
 TIME: 08:43:26

MILITARY SEALING COMMAND
 BUDGET VARIANCE REPORT
 BY ACCOUNT AND CHARGE CODE
 MGR THRU AUGUST 1995 (ALL PROGRAMS)

JE 2
 DOWNLOAD
 09/18/95
 12:07:38

***** 6601 - OVERHAUL *****

CHARGE CODE	DESCRIPTION	SELECTED MONTH FIGURES				YTD FIGURES				TOTAL	
		BUDGETED	ACTUAL	UNDER/(OVER)	%MONTH	BUDGETED	ACTUAL	UNDER/(OVER)	%YTD	YEARLY BUDGET	
21472	BOLD	0.00	0.00	0.00	0%	565,400.00	0.00	565,400.00	100%	565,400.00	
21503	DENEBOLA	424,700.00	1,187.11	423,512.89	100%	4,589,500.00	6,159,414.86	(1,569,914.86)	34%	5,000,000.00	
21504	BELLATRIX	424,700.00	1,187.11	423,512.89	100%	4,589,500.00	6,713,414.86	(2,123,914.86)	46%	5,000,000.00	
21505	CAPELLA	0.00	1,187.11	(1,187.11)	0%	0.00	599,920.88	(599,920.88)	0%	0.00	
21511	WILLIAM BAUGH.	0.00	0.00	0.00	0%	3,500,000.00	1,517,197.00	1,982,803.00	57%	3,500,000.00	
21524	ERICSSON	0.00	(19,640.70)	19,640.70	0%	0.00	252,202.84	(252,202.84)	0%	0.00	
21525	GRUNMAN	128,500.00	601,269.00	(472,769.00)	368%	1,413,500.00	1,059,989.00	353,511.00	25%	1,542,000.00	
21542	SIRIUS	0.00	0.00	0.00	0%	2,056,000.00	184,416.00	1,871,584.00	91%	2,056,000.00	
21546	SPICA	296,410.00	3,821.59	292,588.41	99%	3,260,510.00	2,530,275.78	730,234.22	22%	3,556,900.00	
21547	NATEJ KOCAX, SS	0.00	0.00	0.00	0%	0.00	249,941.00	(249,941.00)	0%	0.00	
21579	DIEHL	151,669.00	8,259.20	143,409.80	95%	1,670,680.00	1,567,370.63	103,309.37	6%	1,822,600.00	
21581	KANAWHA	0.00	0.00	0.00	0%	1,542,000.00	1,330,386.00	211,614.00	14%	1,542,000.00	
21582	PECOS	160,710.00	0.00	160,710.00	100%	1,767,810.00	1,316,790.75	451,019.25	26%	1,928,500.00	
21585	ALEXAN BOHNYMAN	0.00	0.00	0.00	0%	3,500,000.00	1,460,934.00	1,839,066.00	53%	3,500,000.00	
21586	PHILLIPS	0.00	1,517,197.00	(1,517,197.00)	0%	0.00	1,517,197.00	(1,517,197.00)	0%	0.00	
21590	REGULUS	424,700.00	6,141,187.11	(5,716,487.11)	1346%	4,589,500.00	6,159,414.86	(1,569,914.86)	34%	5,000,000.00	
21591	ALGOL	0.00	624,230.52	(624,230.52)	0%	0.00	870,781.79	(870,781.79)	0%	0.00	
21592	ALTAIR	424,700.00	1,187.11	423,512.89	100%	4,589,500.00	6,200,149.86	(1,610,649.86)	35%	5,000,000.00	
21593	ANTARES	424,700.00	1,187.11	423,512.89	100%	4,589,500.00	7,145,414.86	(2,555,914.86)	56%	5,000,000.00	
21594	POLLUX	0.00	1,187.11	(1,187.11)	0%	0.00	264,403.38	(264,403.38)	0%	0.00	
21611	TENACIOUS	0.00	0.00	0.00	0%	600,000.00	0.00	600,000.00	100%	600,000.00	
21621	BIG BORN	128,500.00	4,000.00	124,500.00	97%	1,413,500.00	519,671.00	893,829.00	63%	1,542,000.00	
21622	TIPPECANOE	0.00	3,382.00	(3,382.00)	0%	0.00	323,838.00	(323,838.00)	0%	0.00	
21628	LOUIS NAUGE, MV	0.00	0.00	0.00	0%	3,500,000.00	1,866,455.00	1,633,545.00	47%	3,500,000.00	
21629	JOHN BOBO, MV	0.00	0.00	0.00	0%	1,980,000.00	1,939,536.23	40,463.77	2%	1,980,000.00	
21631	STEPHEN PLESS,	85,781.00	0.00	85,781.00	100%	926,988.00	81,877.00	845,111.00	91%	1,010,000.00	
21634	MAURY	0.00	0.00	0.00	0%	828,600.00	338,275.00	490,325.00	59%	828,600.00	
21635	TANNER	0.00	0.00	0.00	0%	0.00	0.00	0.00	0%	0.00	
21636	HERCY	0.00	8,500.00	(8,500.00)	0%	0.00	8,500.00	(8,500.00)	0%	0.00	
21637	COMFORT	0.00	0.00	0.00	0%	0.00	1,216,160.00	(1,216,160.00)	0%	0.00	

Figure 5.2 (Cont.)

how well specific areas, activities, or functions, such as overhauls, are being managed and controlled within his or her program. The "Budget Variance Report by Account and Charge Code", displayed in Figure 5.2, shows these data. This report states whether a specific category of costs for each ship is under or over budget.

The USNS Narragansett is over budget for the month and year to date. This information alerts the program manager to possible problems, such as repairs beyond what was originally scheduled or that the activity that performed the repairs charged MSC over what was originally planned and contracted. Whatever the specific cause of the problem may be, program management personnel will be informed of that problem by way of this report. Program management personnel can then begin to take actions to control future costs, such as ensuring that only required and planned repairs take place, or establishing more economical contracts for overhaul or other services in the future. This report, similar to the "Budget Variance Report by Funds Administrator and Charge Code", is limited in that it only alerts managers to problems and does not specifically pinpoint problem causes.

c. The Budget Variance Report by Program and Charge Code

A "Budget Variance Report by Program and Charge Code" is provided in Figure 5.3. This report depicts several different GLA numbers, or types of costs, for a specific ship. This type of report is produced for each ship at MSC. Again, the author wishes to display format, and not content; so a report for each ship is not provided.

REPORT: 180024
 REVISION 3: 26 October 1994
 PERIOD: 10 FY95
 DATE: 28 September 1995
 TIME: 07:11:23
 QUERY: SUBSTR(Act_Bud-CENTER,9,1)='F'

MILITARY SEALIFT COMMAND
 BUDGET VARIANCE REPORT
 BY PROGRAM & CHARGE CODE
 EXPENSES FOR PROGRAM "F" AS OF 30AUG95
 ***** FAST SEALIFT SHIPS *****

PAGE: 9
 DOWNLOAD
 DATE: 08/15/95
 TIME: 15:37:48

		SELECTED MONTH FIGURES				YTD FIGURES				TOTAL	
CHARGE					VAR*					VAR*	
CODE	ACCOUNT DESCRIPTION	BUDGETED	ACTUAL	UNDER/(OVER)	%MONTH	BUDGETED	ACTUAL	UNDER/(OVER)	%YTD	YEARLY BUDGET	
*** CHARGE CODE TOTAL ***		830,400.00	391,575.24	438,824.76	47%	8,144,500.00	9,921,870.98	(1,777,370.98)	122%	9,779,400.00	
ANTARES											
21593	6168 MILITARY LABOR	1,100.00	0.00	1,100.00	0%	10,900.00	0.00	10,900.00	0%	13,000.00	
21593	6501 NSFO FUEL	0.00	0.00	0.00	0%	0.00	203,759.64	(203,759.64)	***X	0.00	
21593	6502 DFM FUEL	0.00	0.00	0.00	0%	0.00	192,447.00	(192,447.00)	***X	0.00	
21593	6503 BUNKER C FUEL	10,500.00	0.00	10,500.00	0%	103,100.00	282,728.16	(179,628.16)	274%	124,000.00	
21593	6509 LUBE OIL	2,900.00	0.00	2,900.00	0%	28,400.00	20,203.64	8,196.36	71%	34,000.00	
21593	6514 OX COG GN LS INVT	0.00	0.00	0.00	0%	0.00	(150.00)	150.00	***X	0.00	
21593	6515 REPRS TO OX COG STOR	800.00	0.00	800.00	0%	8,000.00	0.00	8,000.00	0%	10,000.00	
21593	6560 OTHR SUPPLIES	1,600.00	0.00	1,600.00	0%	15,900.00	11,422.60	4,477.40	72%	19,000.00	
21593	6601 OVERHAUL	424,700.00	8,000.00	416,700.00	2%	4,164,800.00	7,144,227.75	(2,979,427.75)	172%	5,000,000.00	
21593	6602 DRYDOCK	0.00	31,500.00	(31,500.00)	***X	0.00	31,500.00	(31,500.00)	***X	0.00	
21593	6603 VOYAGE REPAIRS	41,300.00	0.00	41,300.00	0%	404,800.00	(623,824.28)	1,028,624.28	***X	486,000.00	
21593	6605 PRQC ALTS	28,500.00	0.00	28,500.00	0%	279,600.00	0.00	279,600.00	0%	336,000.00	
21593	6606 UNPROG ALTS	2,900.00	0.00	2,900.00	0%	28,400.00	0.00	28,400.00	0%	34,000.00	
21593	6611 PAINT	14,900.00	2,600.00	12,300.00	17%	146,000.00	2,600.00	143,400.00	2%	175,000.00	
21593	6630 M&R SERVICE DRDS	2,500.00	0.00	2,500.00	0%	24,800.00	0.00	24,800.00	0%	30,000.00	
21593	6699 OTHER SHIP M & R	18,400.00	495,374.82	(476,974.82)	***X	180,400.00	4,006,447.44	(3,826,047.44)	***X	217,000.00	
21593	6704 CHARTER HIRE MONSCA	111,400.00	184,769.00	73,369.00	166%	1,092,400.00	1,560,976.00	(468,576.00)	143%	1,312,000.00	
21593	6711 CREW OT	1,100.00	0.00	1,100.00	0%	10,900.00	0.00	10,900.00	0%	13,000.00	
21593	6712 CREW TRAVEL	500.00	0.00	500.00	0%	5,000.00	0.00	5,000.00	0%	6,000.00	
21593	6724 MISCEL CONT COST	1,000.00	0.00	1,000.00	0%	9,900.00	0.00	9,900.00	0%	12,000.00	
21593	6725 LAYBERTH CHARGES	76,000.00	45,688.04	30,311.96	60%	745,500.00	629,148.43	116,351.57	84%	895,000.00	
21593	6757 PANAMA TOLLS	0.00	0.00	0.00	0%	0.00	90,669.67	(90,669.67)	***X	0.00	
21593	6799 OTHER PORT CHARGES	6,100.00	254.11	5,845.89	4%	59,800.00	111,660.66	(51,860.66)	187%	72,000.00	
21593	7012 DATA COMMUNICATIONS	200.00	0.00	200.00	0%	2,000.00	226.49	1,773.51	11%	2,400.00	
21593	7700 OTHER MISCEL EXP	8,100.00	0.00	8,100.00	0%	79,300.00	1,827.28	77,472.72	2%	95,000.00	
*** CHARGE CODE TOTAL ***		754,500.00	768,185.97	(13,685.97)	102%	7,399,900.00	13,665,870.48	(6,265,970.48)	185%	8,855,400.00	

Figure 5.3 Budget Variance Report By Program and Charge Code

The "Budget Variance Report by Program and Charge Code" provides the program and project managers with all direct costs per ship, for the entire program. Here, all costs except allocated overhead are included. Each cost element is broken down into budgeted cost, actual cost, and a variance for a specific month and year to date. With costs broken into individual accounts by specific ship, program managers can pinpoint individual cost account overruns (i.e., possible poor financial performance) and begin a search for the causal factor and subsequent correction, adjustment, or reprogram of funds if the overrun is justified.

This information is vital to assessing the performance of specific functions or areas that are required to produce a service for a sponsor on a per ship basis. It is also important for controlling costs assigned to or accumulated by those specific ships and budgeting and setting per diem rates for individual ships for future operating periods. This report is extremely important to program managers because it displays all direct budgeted and actual costs for an individual ship, which is essentially an individual cost driver in the program. Each ship is assigned as a cost driver because it represents an individual product sold by MSC to sponsors. Each ship represents a finite unit of service that generates revenues and costs. The costs and revenues generated by the cost object, and all other costs objects within a program, can be compiled to form the budget and set rates for the next operating period as well as to assess the financial performance of the program. It is these basic cost

objects that drive costs, and hence the individual entities that must be managed and evaluated on a continuing basis.

This report does seem to have one significant flaw. If the intent of this report is to show all costs of a particular program (or project or ship) as a cost object, then the overhead allocated to the program should be detailed as well. Overhead may comprise up to 10% of the total program cost as discussed in Chapter II. If the full costs are to be displayed for a program, then the overhead must be included within the report. Without displaying overhead, this report understates the total costs of the program and may mislead managers in setting rates that reflect the true costs of providing services to sponsors. This inclusion of overhead is vital because it must be known in order to accurately budget and set per diem rates. This overhead must be recovered in revenues received from sponsors in order to break even under the DBOF concept, so establishing future rates depends largely on amounts of overhead allocated to the programs.

d. The Cost of Operating Ships

The next report is the "Cost of Operating Ships". A Consolidated Report is shown in Figure 5.4 and specific ship report (i.e., the USNS Stalwart) is shown in Figure 5.5. These reports summarize the previous month's balance, the costs incurred to U.S. Marine Management, Inc. (USMMI), which is a commercial merchant marine contractor that operates MSC ships, for services provided, payments made by MSC for invoices presented,

DEPARTMENT OF THE NAVY
MILITARY SEALIFT COMMAND
COST OF OPERATING SHIPS
FOR THE MONTH OF MARCH 1995

CONSOLIDATED REPORT

	PREVIOUS MONTH'S BALANCE	COSTS INCURRED TO USMMI FOR SERVICES PROVIDED	PAYMENTS MADE BY MSC FOR INVOICES PRESENTED	BALANCE DUE
Per Diem	2,356,106	1,593,353	2,127,193	1,822,266
(Off-hire)	0	0	0	0
Fuel	0	70,310	0	70,310
Lube/Hydraulic	0	0	0	0
Maintenance & Repair	0	0	0	0
Repairs Parts/Shipping	126,227	118,305	98,258	146,274
Minor Repairs	0	(577)	0	(577)
Industrial/Technical Assistance	180,859	123,684	250,135	54,408
Underwater Hull Maintenance	0	0	0	0
ROS Direct Expenses	238,898	176,879	145,092	270,685
Misc. - Installed Equip	3,403	5,367	1,576	7,194
Overhauls	225,141	126,899	137,581	214,459
Alterations	12,797	0	6,929	5,868
Inspections and Classification	330	39	0	369
Port Charges/Shore Services	75,627	56,600	13,326	118,901
Misc. Administrative Costs	0	0	0	0
Additional Crew Wages/Training	80,670	6,404	10,921	76,153
Increased Security	0	0	0	0
Chemical/Drug Testing	730	0	730	0
Turnover Deficiencies	0	0	0	0
Sponsor/Govt Meals	10,467	2,642	0	13,109
Medical Supplies	2,464	212	2,464	212
Public Affairs Activities	0	0	0	0
Contractors' travel	10,512	3,166	2,237	11,441
Other(specific) Sponsor Overtime	6,762	11,871	4,270	14,363
	3,330,993	2,295,154	2,800,712	2,825,435
Total FY 94/95, Oct 94 to Date		13,611,415		
Total from Contract Start Date to Date		145,221,851		
N00033-90-C-4006				

Figure 5.4 Cost of Operating Ships, Consolidated Report

DEPARTMENT OF THE NAVY
MILITARY SEALIFT COMMAND
COST OF OPERATING SHIPS
FOR THE MONTH OF MARCH 1995

USNS STALWART

	PREVIOUS MONTH'S BALANCE	COSTS INCURRED TO USMMI FOR SERVICES PROVIDED	PAYMENTS MADE BY MSC FOR INVOICES PRESENTED	BALANCE DUE
Per Diem	284,408	199,492	281,864	202,036
(Off-hire)	0	0	0	0
Fuel	0	0	0	0
Lube/Hydraulic	0	0	0	0
Maintenance & Repair	0	0	0	0
Repairs Parts/Shipping	7,471	6,556	7,471	6,556
Minor Repairs	0	0	0	0
Industrial/Technical Assistance	65,829	(2)	65,827	0
Underwater Hull Maintenance	0	0	0	0
ROS Direct Expenses	0	0	0	0
Misc./Installed Equip	0	0	0	0
Overhauls	0	0	0	0
Alterations	0	0	0	0
Inspections and Classification	0	0	0	0
Port Charges/Shore Services	240	0	0	240
Misc. Administrative Costs	0	0	0	0
Additional Crew Wages/Training	69,749	471	0	70,220
Increased Security	0	0	0	0
Chemical/Drug Testing	0	0	0	0
Turnover Deficiencies	0	0	0	0
Sponsor/Govt Meals	0	0	0	0
Medical Supplies	2,418	0	2,418	0
Public Affairs Activities	0	0	0	0
Contractors' travel	0	0	0	0
Other, Sponsor Overtime	0	222	0	222
	430,115	206,739	357,580	279,274
 Total FY 94/95, Oct 94 to Date		1,314,365		
 Total from Contract Start Date to Date		10,571,783		
 N00033-90-C-4006				

Figure 5.5 Cost of Operating Ships, USNS Stalwart

and the balance due to USMMI. The Consolidated Report represents a summary of monthly costs for the entire contract. The per ship report represents the costs incurred by each ship that operates within the U.S. Marine Management, Inc. contract. Similar reports are produced for the Dyn Marine Services Division, also a commercial merchant marine operating MSC ships, contract.

The "Cost of Operating Ships" reports, Figures 5.4 and 5.5, provide the program and project managers with the knowledge of the amounts of outstanding balances payable to the commercial contractors. It is important that the contractors be paid on a timely basis. In a worst case scenario, failure of MSC to the contractor could result in the contractor's inability to fund for vital operations in the accomplishment of his mission: operating MSC's ships.

3. Other Financial Management Information

During the data gathering phase of this thesis, the author interviewed Mr. David G. Allen, A76 Program Manager, N7, MSCLANT [Ref. 20]. As the A76 Program Manager³, Mr. Allen directs the operations of several ships. To manage his program, Mr. Allen has constructed several custom reports. These reports are generated by N8 (Comptroller) using information contained in the Financial Management Information System (FMIS) for him.

³ The A76 Program is intended to enhance efficiency in government by promoting competition between commercial vendors offering services similar to the government producer, and the government agency, such as MSC. Each entity bids competitively for sponsor contracts.

The MSCLANT BUDGET N-81: LS Report, constructed by Mr. Allen, contains the information as presented in Figure 5.6:

**SHIP: A76 CONTRACT (SHIP NAME) (CHARGE CODE) (STATUS)
(MONTH-YEAR)**

<u>Grp. No.</u>	<u>Acct. No.</u>	<u>Fixed</u>	<u>Adjusted</u>	<u>YTD Exp.: (Month)</u>	<u>Balance</u>	<u>% Expended</u>	<u>Acct. Desc.</u>
x	xxxx	xxx	xxx	xxx	xxx	xxx	xxx
<u>Total: Group No.</u>		xxx	xxx	xxx	xxx	xxx	xxx
<u>Grand Total</u>		xxx	xxx	xxx	xxx	xxx	xxx

<u>Grp. No.</u>	<u>Acct. No.</u>	<u>Fixed</u>	<u>Month Exp.</u>	<u>YTD Exp.</u>	<u>Balance</u>	<u>% Expended</u>	<u>Acct. Desc.</u>
x	xxxx	xxx	xxx	xxx	xxx	xxx	xxx
<u>Total: Group No.</u>		xxx	xxx	xxx	xxx	xxx	xxx
<u>Grand Total</u>		xxx	xxx	xxx	xxx	xxx	xxx

<u>Grp. No.</u>	<u>Acct. No.</u>	<u>Adjustments</u>	<u>Month Exp.</u>	<u>YTD Exp.</u>	<u>Balance</u>	<u>% Expended</u>	<u>Acct. Desc.</u>
x	xxxx	xxx	xxx	xxx	xxx	xxx	xxx
<u>Total: Grp. No.</u>		xxx	xxx	xxx	xxx	xxx	xxx
<u>Grand Total</u>		xxx	xxx	xxx	xxx	xxx	xxx

Figure 5.6 MSCLANT Budget N-81: LS

This report has three sections. In the first section, the column headings represent the following:

- Grp. No.: Major grouping of costs (for example, all GLA personnel costs are included in Grp. 1
- Acct. No.: The General Ledger Account (GLA) number
- Fixed: The yearly budgeted cost for that particular GLA
- Adjusted: The monthly budgeted cost for that particular GLA
- YTD Exp.: (Month): The budgeted cost for that particular GLA up to this point in the fiscal year
- Balance: The budgeted costs for that particular GLA that remain at this point

- in the fiscal year
- % Expended: The budgeted percentage of cost expended for that particular GLA at this point in the fiscal year as a percent of total cost
- Acct. Desc.: The GLA description.

The second section of the report contains the following information:

- Grp. No.: Same as above
- Acct. No.: Same as above
- Fixed: Same as above
- Month Exp.: Actual expenditure for that GLA for the present month
- YTD Exp.: Actual Expenditure for that GLA year to date
- Balance: Difference between budgeted amount and YTD Exp. For that particular GLA
- % Expended: Actual percentage of budgeted amount expended year to date
- Acct. Desc.: Same as above.

The information contained in the third section of the report includes:

- Grp. No.: Same as above
- Acct. No.: Same as above
- Adjustments: Number of adjustment made to previously reported figures
- Month Exp.: The variance, or difference between the budgeted and actual expenditure for that particular month and GLA
- YTD Exp.: The variance, or difference between the budgeted and actual year to date expenditure for that particular GLA
- Balance: Same as "YTD Exp." in third section
- % Expended: Meaningless in this section
- Acct. Desc.: Same as above.

This report, which is produced for each ship operating in the A76 program, provides all elements of direct operating cost for that particular ship. The MSCLANT Budget N-81: LS report, constructed by Mr. Dave Allen, provides full cost visibility for each ship within the

A76 Program. In this report, costs are broken out in main categories, such as total personnel costs or maintenance and repair costs, and individually, such as base pay for civilian mariners (CIVMARS), or CIVMAR overtime pay. They are displayed as budgeted, by actual expenditure, and compared for the month in question and year-to-date. As with the “Budget Variance Report by Program and Charge Code”, this report displays the total direct costs for the entire program and for each ship within the program.

This type of report is essential if managers wish to compare actual costs of operations against the budgeted costs. This comparison is a way to provide information on cost overruns or irregularities. If this occurs, and the managers have this information in a timely manner, managers can quickly begin to search for the factor or factors underlying their cause. Causal factors for unjustified overruns can be quickly corrected in the future.

At year end, this report provides a total summary of direct costs which will allow for budgeting and rate setting in the future. It becomes the basis of the historical costs previously discussed in earlier chapters. These costs could form the basis for negotiating future, more economical contracts or operating practices.

This report, like the “Budget Variance Report by Program and Charge Code”, also does not display overhead allocated to the program. As discussed above, overhead must be included in a report such as this if full cost visibility is to be achieved.

C. USES OF THE FINANCIAL MANAGEMENT INFORMATION

1. Budgeting and Planning for Future Operations

Knowledge of full ship and program costs is essential if accurate budgeting for future operations is to be accomplished. All historical costs must be made available to the program managers. These costs will form the basis for the next period's budget. Once the Force Plan, or the operational commitments, of MSC for the upcoming fiscal year has been developed, the historical costs of each element required to deliver future services can be overlayed on the Force Plan. Adjustments for inflation and other increases in the costs of producing the services requested by sponsors can be made. Without historical program and ship data, budgeting would largely be guessing. Historical costs also establish a negotiating baseline from which MSC can begin to contract for goods and services from commercial vendors in order to provide the services that sponsors request.

2. Establishing Rates

Closely following budgeting for future operations is the establishment of per diem rates charged to sponsors. MSC's customers have, for a long time, been asking MSC to control their costs. Cost control at MSC ultimately leads to reduced rates charged to sponsors. This is precisely what the sponsor desires.

Many of the individuals interviewed believe that MSC has inflated the budgeted costs of conducting future operations so that unexpected contingencies could readily be countered.

Managing these contingencies, they felt, could be accomplished by using the extra resources that were budgeted into MSC's plan. For example, if N3, Operations had planned on operating a ship for 100 days in full operating status and 265 days in repair and overhaul, N3 would have budgeted for 100 days of fuel for this ship, and N7, Engineering would have budgeted for the maintenance and repairs. If the ship was required to meet a contingency due to national priorities, and was required to operate in a full status for 365 days, the ship would require significantly more resources to account for the extra fuel and no resources for maintenance and repair. Simply reprogramming funds from N7 to N3 would solve this problem. However, the interviewees stated that the funds reprogramming process required authorization from COMSC, which required valuable time to accomplish. So, if budgets were "padded", individual functions could solve this problem by utilizing the additional resources budgeted into their functional directorate's budget without having to request reprogramming authorization from COMSC. They also felt that if the reprogramming of funds from one funds administrator to another didn't require the authority of higher levels of management, the artificially high budgeted costs would not exist because managers would not need the extra resources to begin with.

The resources to counter contingencies were made available because the rates charged to sponsors reflected the artificially increased budgeted costs. The additional resources were actually made available when the customers placed their orders and increased MSC's

obligational authority under the DBOF concept. This situation provides a clear example of an organizational hierarchy that slows down the process of providing quality, cost-effective services to its customers.

The principles of the program management organization should negate the need or desire to pad budgets in anticipation of unexpected events. Program managers, responsible and accountable for the financial success of their programs, will be able to reprogram resources into the areas surrounding the contingency. Budgeting and rate setting should reflect the true cost of providing the services to sponsors provided that all historical costs are accumulated and known by the program manager, as well as the establishment of an accurate Force Plan.

3. Sponsor Reimbursables

Special, or non-routine modifications or equipment additions to a ship's scientific equipment are not uncommon in MSC's Special Mission Ship Force program. These modifications or scientific equipment additions come at the request of the sponsor, who feels that the new or modified system will better enable the platform to aid in accomplishing the sponsor's mission. These modifications are funded, up front, by the sponsor. MSC contracts for the work to be accomplished, has the work completed, and pays the commercial vendor for the work with the funds provided up front by the sponsor. MSC is supposed to promptly return any unused resources. In the preceeding chapter, it is the opinion of those interviewed

that MSC does not possess a cost management tool to accumulate and monitor the costs involved with a reimbursable project such as this, nor has it consistently returned unused sponsor resources in a timely manner.

MSC needs a system or a tool to track and monitor sponsor reimbursable work more effectively. Program managers need to be made aware of reimbursable work progress made to date. They need some form of report that shows the amount, or percentage, of the work completed as compared to the total contract. Further, the costs driven and accumulated by those activities that are undertaken to complete the work for the sponsor should be documented as well. When all of the work is completed and the modified ship configuration is ready to support the sponsor, the program manager must be able to immediately provide the sponsor with total cost information, a breakdown of the work actually completed and what the specific cost categories were included; and he must be capable of returning unused funds promptly. A recommendation for a sponsor reimbursable job cost sheet will be provided later in the next chapter.

4. Measures of Success

Aside from variance analysis, no internal reports depicting program, project, or individual ship profit or loss were observed. Organizations operating under the DBOF concept budget for their operations and establish per diem rates to break even financially. It

would seem appropriate that there would exist a profit-and-loss statement for individual ships, projects, and program.⁴

Profit-and-loss reports will provide the program manager with a tool to show how his program is performing in terms of both costs and revenues. This type of performance assessment is important as assessing only cost performance may lead managers to make poor decisions. For example, if a ship has been budgeted under a Force Plan calling for six months full operating status and six months of overhaul time, but actually operates in a full status for twelve months, the costs will be overrun by somewhere close to 100%. This may provide an appearance of poor cost control. If the manager has a profit-and-loss statement indicating costs and revenues of the ship, he will see that the revenues will be increased, reflecting the rates charged for twelve months of full operating status. A recommended per-ship profit-and-loss report will also be provided in the next chapter.

Budgeting for operations, establishing sponsor rates, and assessing performance under the DBOF concept with the goal to break even financially allows for the status quo and provides for no aggressive financial goal. Costs from prior periods' operations are accumulated and form the basis upon which to budget for future periods. Unless aggressive measures are taken to reduce costs in the future, rates will naturally continue to rise. Solid

⁴ Statements of Revenue and Cost, which show profit and loss for each program within MSC, and for MSC in total are prepared for external use. The author did not observe any profit-and-loss statement for individual ships or programs for internal use during the conduct of operations.

or noteworthy performance should be measured by the continual turning of positive profit and the subsequent reduction in rates. Achieving a financial break-even under the DBOF concept should be viewed as weak financial performance because this necessarily means that costs were kept within budget and not held to figures well below budget. Aggressive and successful performance should be associated with positive profits because it is the consistent realization of profits that will continually reduce future costs as profits offset the revenues required to break even for the next period. Realizing a profit results from reduction of costs to levels below those originally planned. This should be the manager's goal.

Customers desire lower rates. They will be delighted with MSC services only when rate reductions are maintained. For this to occur, costs must continually be reduced and positive profits realized.

5. Allocated Overhead Reporting

No report delineating overhead allocated to individual programs, projects, or ships was observed. These costs, which will be largely uncontrollable outside of negotiations between program managers and N8, Comptroller personnel early in the budgeting process, are a large part of full program costs. Managers need to know this information because the rates must be set so that these costs can be recovered through revenues received from sponsors.

D. MSC, REINVENTED

Under the Program Management organizational structure, MSC will need a system to allow the managers of the programs to know the full costs of operating the programs, projects, and individual ships, as well as a knowledge of revenues and status of funds available, and information on the status of reimbursable projects. If full program, project, and ship costs are provided in a timely manner, individual programs will be capable of setting realistic rates as well as controlling costs and managing operations more effectively and efficiently. If costs aren't known on a timely basis, costs can't be managed and controlled effectively. Revenues and status of funds available must be known in order that managers can fund for certain activities in the conduct of delivering services to customers. In general, the proper information must be known on a timely basis in order that the program be effectively managed.

E. SUMMARY

Managers need timely, accurate, and usable information, as well as the proper decision authority to manage their programs and provide quality, responsive service to sponsors. The future program managers will be closest to the sponsors, and according to Hammer and Champy and the Report of the National Performance Review, those closest to the customer must possess the management tools, the information, and the decision authority. Program managers must be empowered to make decisions critical to ensuring responsive service to

sponsors, such as the authority to reprogram funds within their programs. Further, program managers must have a system to provide them with timely and accurate data so they can engage in the management cycle activities such as controlling and managing costs, setting per diem rates, and evaluating program financial performance.

MSC's Financial Management Information System (FMIS) has the capability to provide future program managers with the requisite information for successful program management. The "Budget Variance Reports" display information in a usable manner. The major deficiencies with the overall financial management system with respect to the future program management organizational structure are that not all managers have timely access to the FMIS and that the responsibility for financial management activities has yet to be determined for the reinvention effort.

VI. RECOMMENDATIONS

A. REINVENTING MSC

1. Planning for Financial Management

A significant recurring theme encountered during the interview phase of this thesis is that no mention or discussion of financial management has taken place thus far in the reinvention planning effort. Financial management is a significant area of management in general and must be considered during the planning phase of MSC's reinvention. An organizational restructuring may bring with it the need to alter, or redesign the management control systems and processes, which include the systems that enable financial management. Financial management planning is a must for the reinvention effort. Serious consequences may result from a failure to do so.

2. Division of Responsibilities

Under the present organizational structure at MSC, four main divisions exist within the N8, Comptroller functional directorate as discussed in Chapter II. They are: the Budgeting Division, the Performance Reporting and Analysis Division, the Financial Management Analysis Division, and the Accounting Division as previously mentioned in Chapter II.

Under the reinvented organizational structure, many of these responsibilities should be incorporated into the program manager's task list. The budgeting function, which includes

rate setting and fund administration should naturally be one of the program manager's functions. Program management personnel execute the program's objectives and are involved in its daily operation. Thus, they have a better knowledge of what drives costs. Comptroller personnel are not involved in program operations, so they will not have complete program knowledge unless they work directly for it. Budgeting personnel should work directly for the program managers. Comptroller personnel should provide budget guidance and support, and should make the final approvals for program budgets and billing rates.

Fund administration must be the responsibility of the program manager. During interviews with MSC personnel, a common theme was that reprogramming funds between functional directorates required approval at the highest levels. These issues were sent up the chain of command for decision, a lengthy process that took valuable time. This ultimately led to a less responsive organization serving its customer. It slowed down the process of providing services to paying sponsors. For this reason, fund administration must be the program manager's responsibility. With it, funds could be easily reprogrammed to meet shifting priorities of unplanned events, ultimately reducing the time required to meet sponsor requirements.

The majority of activities of the Performance Reporting and Analysis Division should also be incorporated into the program manager's responsibilities. Program managers will be better suited to analyze their activities than will Comptroller personnel. If program personnel

construct their budgets, they should also evaluate performance and adherence to their plan and make estimates of effectiveness and efficiency. Again, personnel not co-located with the program will not have in-depth knowledge of what actually occurs during program operations and budget execution.

Likewise, program personnel will have a more thorough knowledge of revenues as they will be gathering Force Plan data and securing requests for service from future sponsors. Requests for service are directly tied to revenues because the sponsor will begin to pay per diem rates once the contract commences.

Certain activities within the Accounting Division should become program management responsibilities. While invoices for services received and revenue receipts should be processed centrally at MSC headquarters and area commands as it is presently, this is the critical information that must be shared and at the disposal of program management personnel. The analysis of this information in cost and other management reports should be the responsibility of program management personnel. In order to accomplish this, program management personnel will require on-line access to FMIS. It is these people who will take actions to influence future costs and to correct unjustified deviations from the program's budget. These are the people who will make the decisions concerning allocation of resources to meet competing demands within their programs. They should have the information at their fingertips.

B. FINANCIAL MANAGEMENT UNDER THE REINVENTED MSC

1. Access to the FMIS

Program, project, and business managers must have access to the Financial Management Information System (FMIS) at the Military Sealift Command. If these management personnel are to be responsible and held accountable for the financial success or failure, as well as all other aspects of their programs, they need access to financial information generated on their programs. Informed decisions cannot be made otherwise.

Computer terminals and other modes of information retrieval must be at the disposal of program management personnel. They should not have to rely on N8, Comptroller personnel to deliver the vital internal management reports generated for their programs and issues. In the past, this has been the case.

Information must be shared at MSC. If program management personnel are to control and manage costs, set accurate per diem rates, and manage effectively, they must have the timely, accurate financial information at their disposal.

2. Management Report Recommendations

a. Existing Internal Management Reports

After analyzing the formats of existing reports, the author feels that they adequately present the critical program and ship cost information, with the exception of the overhead portion of costs allocated, with which to manage and control operations. While

program managers may wish to tailor specific details within each format, complete or drastic changes to the "Budget Variance Report by Program and Charge Code", are not currently recommended.

One recommendation that concerns or involves these reports is to whom they are distributed. As previously stated, program, project, and business managers should have access to this information as they desire.

b. Sponsor Reimbursables

During interviews with personnel at MSC, a common opinion was that MSC was not timely in returning unused sponsor resources after a reimbursable project has been completed, as discussed in the previous chapter. These managers felt that MSC should be better stewards of sponsor funds.

In order to manage such pools of funds and reimbursable projects more effectively, MSC needs some type of tool to provide visibility to the financial aspect of these activities. A basic format of such a tool is explained below.

This simplistic cost sheet can be used by the program manager to budget for and accumulate actual costs for a sponsor reimbursable special project or overhaul. The budgeted costs can be used as a breakdown of planned and anticipated costs that will accrue as a result of MSC contracting for and having this work completed. The budgeted costs will serve as an estimate and a figure that drives the amount of resources that the sponsor must

provide MSC prior to the project being initiated. The actual costs will be recorded and accumulated when MSC receives invoices from individuals and organizations, such as ship yards or other major industrial assistance entities. When the ship yard or other activity that actually performs the work informs MSC that the project is completed, and all costs are known by MSC, the program manager will have the information available so that any unused resources can immediately be returned to the sponsor.

SPONSOR REIMBURSABLE: PROJECT _____

Sponsor Name: _____ **MSC Program/Ship:** _____

Revenues Paid in Advance _____

	<u>Budgeted</u>	<u>Actual</u>	<u>Variance</u>
Costs:			
Personnel			
(All Pers Costs)			
Materials and Supplies			
Maintenance and			
Repair			
Industrial Assistance			
(Ship Yard Costs)			
Etc.			

Total Costs: _____

Amount Owed to (by) Sponsor: _____

Fig. 7.1. Sponsor Reimbursable Project Cost Sheet

c. Ship and Program Profitability

One quantifiable and objective way to measure program, project, or individual ship performance is to calculate profit. While MSC does produce end of period programmatic financial statements for external users, no internal summation of operations for a random point during the operating period was observed. For a program such as the Special Mission Ship Force at MSC, it may be beneficial to program management personnel to have program, project, or ship profitability information at all times. It would allow management personnel to determine if more resources are needed or if resources are more abundant than need be, allowing a funding shift to other priorities during the operating period. A recommended tool, or a simplistic format to provide program managers with information on costs, revenues, and an associated profit for the entire program, project, or individual ship is presented in Figure 7.2.

d. Allocating Overhead

Program, project, and business managers under MSC's future reinvented organizational structure must know early on the amount of overhead that their program will be allocated. This is critical in that these costs must be recovered through the per diem rates charged to customers. Rates must reflect overhead allocated to program.

PROGRAM REVENUES, COSTS, AND FINANCIAL PERFORMANCE

Program/Project/Ship:

Revenues (from per diem):	_____	
Other Revenues:	_____	
 Total Revenues:		_____
 Costs:		
Personnel:	_____	
(All Pers Costs)		
 Maintenance and Repair:	_____	
(All M&R Costs)		
Port Charges & Tolls:	_____	
(All Port Charges)		
Petroleum/Oil/Lubrication:	_____	
(All POL Costs)		
Other Costs:	_____	
Overhead Allocated to Program/ Project/Ship:	_____	
 Total Costs:		_____
 Program/Project/Ship Profit (Loss) to Date:	_____	

Fig. 7.2. Program/Project/Ship Financial Performance to Date

VII. CONCLUSIONS

A. SPECIFIC FINDINGS

This thesis attempted to determine whether the Military Sealift Command's (MSC's) financial management system is an adequate system for the future program managers under MSC's reinvented organizational structure. It evaluated the usefulness of financial management reports generated for internal management use. It also attempted to determine whether managers have access to data critical to managing program operations.

The infrastructure of the Military Sealift Command's (MSC's) financial management system, the Financial Management Information System (FMIS) is a programmable, flexible system that will adequately support the financial management needs of MSC's future program managers. The management reports analyzed, the "Budget Variance Reports", provide the vital direct cost information in a format that is usable. The single existing deficiency with these reports is that no account for overhead allocated to programs or individual ships is provided. Recommendations were provided to address this shortcoming. A potential deficiency with the total FIMS is the uncertainty associated with whether it can provide information concerning the true nature of problems identified in the "Budget Variance Reports". Discovering the true nature of problems identified in these reports is not within the scope of this study.

Several managers vital to program operations do not have on-line access to the FMIS. While they are provided with financial management information and reports, such as the "Budget Variance Reports", it is questionable whether they receive them in time to allow them the ability to influence costs and their respective cost drivers. Future program managers must have access to timely, accurate, and usable financial management information in order to successfully manage their programs.

B. PLANNING FOR PROGRAMMATIC FINANCIAL MANAGEMENT

Numerous personnel interviewed passed to the author that the topic of financial management has not been mentioned throughout the course of reinvention planning. The reinvention effort must include considerations for financial management as these management processes are key to organizational success.

The reinvention effort has been initiated with the hope that costs will be more effectively controlled and overall management more efficient. The author does not see any real change without consideration of where financial management activities will be located: under the cognizance of N8, Comptroller personnel as they are now, or where "the rubber meets the road", under the cognizance of the program manager. If financial management authority and responsibility remains with the N8, Comptroller functional directorate, program managers will essentially be given a budget and told to "execute". They will not have the information to manage and control their programs. The only difference is a shifting of

responsibility and accountability from functional directorates to a program manager. Consideration must be given to financial management activities under the program management organizational structure.

C. PERSONNEL CHANGES

True reengineering, according to the existing literature, means rethinking the business process. It means totally discounting the existing, accepted method of organizing tasks and the assumptions governing those tasks within a process and rethinking the way the work should be done. The whole idea is to streamline a process into only essential value-adding activities. In most reengineering or reinvention cases, jobs and personnel may be eliminated from the organization due to the reinvention rendering them obsolete. This is not bad. The organization is in business to serve the customer. If the customer is not happy with the product that the organization delivers, the customer will get these products elsewhere. Then, no one will be employed at all.

The Military Sealift Command may find that numerous billets will be rendered obsolete after the reinvention effort streamlines business processes. Addressing this issue will be difficult at best. But costs will not be drastically reduced under the program management structure unless the individuals filling reinvention-driven obsolete jobs are reassigned to value-adding positions. Should MSC continue to employ persons filling these billets? This is a question that must be addressed.

D. FUTURE RESEARCH

This thesis examined the financial management information requirements of future program managers at MSC under the reinvented organizational structure. A significant area of interest that continually surfaced during the interview phase of this study concerns the allocation of overhead. Programs are allocated overhead by dividing the total indirect cost pool into portions based on the percentage of time that functional directorates' and area commands' personnel spend working on those programs. The time percentages are averaged, and program shares of the total time available for work becomes the factor with which to allocate the overhead. This method, like all allocation methods, is arbitrary. The author does not argue that this method is unfair. The author does, however, suggest that a better method may exist to allocate overhead to programs, thereby exposing the true full cost of a program.

Information obtained during interviews argues that program managers may object to their share of overhead allocated if they discover that they are paying for costs that their program did not incur. This makes sense. Why should a program pay for a portion of a function or activity if the program does not benefit from that function or activity? If program managers do not use a particular service or function that is provided by MSC, they should not have to pay for it. If it appears that a particular function or service is not utilized, it should probably be eliminated similar to other activities in a reengineering effort.

The specific recommendation for further research concerns MSC's overhead allocation method. Other methods, such as Activity-Based Costing, may provide more visibility into the true costs of a program. Activity-Based Costing, although an overhead allocation method itself, seeks to break out the elements of costs in the overhead pool, determine what activities drive the individual cost elements, then allocate the individual costs to the separate cost objects. While it may be expensive to implement such a system, the resulting benefits, such as potentially better informed decisions, may prove the transition cost-effective.

Another significant area for future research regards an assessment of program managers' satisfaction as to the adequacy of MSC's financial management system. This thesis attempted to assess the application of today's system for the future reinvented organizational structure. A more accurate analysis of the adequacy of the financial management system under the program management structure will be possible after MSC has conducted operations under that organizational structure.

As stated previously, this thesis was not concerned with whether the FMIS provides information that depicts the true reasons for poor financial performance. However, information that pinpoints causes for cost overruns or other poor financial performance would be beneficial to program and project managers. An additional recommendation for research is to inquire into whether or not the FMIS provides, or is capable of providing, automated

information such as detailed invoices for services received or other source documents that may help explain to the program manager why costs have been overrun or why the program performed poorly.

APPENDIX: MSC'S GENERAL LEDGER ACCOUNTS

<u>GLA Number</u>	<u>Description</u>		
Personnel			
Regular Pay		Other Pay	
6111	Base Pay Class	6121	OT Clas
6112	Base Pay Unclass	6122	Int On Bak Pay Clas
6113	Base Pay FNDH	6123	Haz Dty Pay Clas
6114	Base Pay FNIH	6124	Ben Sug Clas
6115	Base Pay CIVMARS	6125	Perf Awd Clas
6116	DCI Base Pay	6126	Holiday Pay Clas
		6127	Cont of Pay Clas
Other Pay (Unclass)		Other Pay (CIVMARS)	
6147	Haz Dty Pay CIVM		
6131	OT Unclass		
6141	OT Reg Non A76 CIVM		
6132	Int on Bak Dty Unclass	6142	OT Reg A76 Reim CIVM
6133	Haz Dty Pay Unclass	6143	OT M&R CIVM
6134	Ben Sug Unclass	6144	Prem Pay Reg CIVM
6135	Perf Awd Unclass	6145	Prem Pay M&R CIVM
6136	Cont of Pay Unclass	6146	Int on Bak Pay CIVM
6137	Holiday Pay Unclass		
Other Pay (Foreign Nationals)		6148	Ben Sug CIVM
6160	Other Pay FNDH	6149	Incent Awd CIVM
6161	Overtime FNDH	6150	Cash in Lieu CIVM
6165	Other Pay FNIH	6151	Awtg Assgt CIVM
		6152	Indoct Trng CIVM
Military Labor		6153	Relief Off CIVM
6166	Enlisted Military Labor	6154	Reimb Crew OT CIVM
6167	Officer Military Labor	6155	Reimb Other Pay CIVM
6168	Other Military Labor	6156	Cont of Pay CIVM
Leave (Classified)		Leave (Unclassified)	
6171	Ann Lv Ernd Clas	6181	Ann Lv Ernd Unclass
6172	CT Tkn Class	6182	CT Tkn Unclass
6173	Sick Lv Tkn Clas	6183	Sick Lv Tkn Unclass
6174	Mill Lv Tkn Clas	6184	Mill Lv Tkn Unclass
6175	Othr Lv Tkn Clas	6185	Othr Lv Tkn Unclass
Leave (CIVMARS)			
6191	Ann Lv Ernd CIVM	6194	Shore Lv Ernd CIVM
6192	CT Ernd CIVM	6195	Mil Lv Tkn CIVM
6193	Sick Lv Tkn CIVM	6196	Othr Lv Tkn CIVM
Benefits (Class)		Benefits (Unclass)	
6201	CSRS Ret Clas	6221	CSRS Ret Unclass
6202	FERS Ret Clas	6222	FERS Ret Unclass
6203	Pers FICA Clas	6223	FERS FICA Unclass
6204	OTP FICA Clas	6224	OTP FICA Unclass
6205	Med CSRS Clas	6225	Med CSRS Unclass
6206	TSP FERS Clas	6226	TSP FERS Unclass
6207	Hlth Ins Clas	6227	Hlth Ins Unclass

6208	Life Ins Clas
6209	Post/Qtrs Allow Clas
6210	FICA CSRS
6211	Vera/SIP
6212	RIF
6213	Surcharge
6214	OPM Benefit

Benefits (CIVMARS)

6241	CSRS Ret CIVM
6242	FERS Ret CIVM
6243	FERS FICA CIVM
6244	OTP FICA CIVM
6245	Med CSRS CIVM
6246	TSP FERS CIVM
6247	Hlth Ins CIVM
6248	Life Ins CIVM
6249	FICA CSRS
6250	Vera/SIP
6251	RIF
6252	Surcharge
6253	OPM Benefit

Supplies and Material

Fuel Oil

6501	NSFO Fuel
6502	DFM Fuel
6503	Bunker C Fuel
6509	Lube Oil
6510	Trans of Things
6511	Consummables
6512	RPR Parts/ILS
6513	Ox Cog Loss Disposal
6514	Ox Cog GN LS Stor
6515	Reps to Ox Cog Stor
6516	Depot Level Repairable
6517	Reimb Supplies

Training Supplies

6518	Off DCI Schl Supp
6519	USMMA Eng Simul Supp
6520	Life Cycle Training Supp
6521	ADP Supp
6522	Software Exp to \$14K

Medical Supplies

6523	Ashore Med Supp
6524	Ship Med Supp

ADP

6525	Aud Vis Supp
6527	Non ADP Eqp
6528	Ship ADP Eqp
6529	Non Ship ADP
6530	Ship Equipage
6531	Reimb Ship Eqppe
6532	Electronic Equip

6228	Life Ins Unclass
6229	Post/Qtrs Allow Unclass
6230	FICA CSRS
6231	Vera/SIP
6232	RIF
6233	Surcharge
6234	OPM Benefit

Benefits FNDH

6261	Sep Allow FNDH
6262	Other Bene FNDH

Benefits FNIH

6266	Sep Allow FNIH
6267	Other Bene FNIH

Equipment Maintenance & Repair

6540	Off Eqpt M & R
6541	ADP Eqpt M & R
6542	Auto M & R
6543	Oper Eqpt M & R
6544	Elect Eqpt Repair
6545	Container M & R
6546	Aud Vis EQ
6547	Other M & R

Pub & Subscript

6550	Pubs and Subscript
6551	Pubs/Subs Government
6552	Pubs/Subs Commercial
6553	Software Application
6554	Software Operating
6555	ADP Supplies Government
6556	ADP Supplies Commercial
6557	Consumables Government
6558	Consumables Commercial

Other Supplies

6560	Other Supplies
6561	Other Supplies Govt.
6562	Other Supplies Comm.
6563	Medical Supplies Govt.
6564	Medical Supplies Comm.
6565	Audiovisual Govt.
6566	Audiovisual Comm.
6570	Other Maint

Official Mail Costs

6581	Reply Mail (BRM)
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6533	Aud Vis Eqp	6582	Express Mail
6534	Container Prch	6583	Return Service
		6584	Meter Setting
	Equipment Rental/Services	6585	Contractor Reimb
6535	Mat Han Eqp (MHE)	6586	Permit Fees
6536	Off Eqp Rent Svc	6587	Permit Mailing
6537	ADP Eqp Rent Svc	6588	Postage Due
6538	MSC Vancontchas	6589	Postage Stamps
6539	Aud Vis Eqp Rent Svc	6590	Stamps/Env/Cards
		6591	Second Class
		6592	Non-Mail Express Shipments
	Ship Maint & Repair		Ship Lease and Charter
6601	Overhaul	6701	Capital Hire
6602	Drydock	6702	Bareboat Hire
6603	Voyage Repairs	6703	Charter Hire SCA
6605	Prog Alts	6704	Charter Hire Non SCA
6606	Unprog Alts	6705	Fixed Fee
6607	Reim Alts	6706	Wage Escal
		6707	Union Contr
	Ship Cleanup	6708	EPA
6611	Paint	6709	War Risk Bonus
6612	Ship Eqp Repair	6710	Ammo Bonus
		6711	Crew OT
	Accident Damage	6712	Crew Travel
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LIST OF REFERENCES

1. Military Sealift Command, "MSC Backgrounder", U.S. Navy, 1995.
2. Quast, Vice Admiral Philip M., Military Sealift Command 1994 in Review, 1994.
3. Special Mission Ship Working Group, "Reinvention Executive Board Report", 29 August 1995.
4. Naval Postgraduate School, Practical Comptrollership, Government Printing Office, Revised March 1995.
5. Comptroller, Military Sealift Command, "Comptroller's Briefing Packet", July 1995.
6. Hale, Katherine A., "Overhead Cost Allocation at Military Sealift Command, Pacific", Masters Thesis, Naval Postgraduate School, December, 1994.
7. Gapp, Francis C. (Contracting Officer, COMSC) and Bradford Sauer (President, U.S. Marine Management, Inc.), Contract No. N62387-95-C-4001, Issued by the Dept. Of the Navy, 23 August 95.
8. Gapp, Francis C. (Contracting Officer, COMSC) and Carl H. McNair, Jr. (President, Dyn Marine Services Division), Contract No. N62387-94-C-4001, Issued by the Dept. Of the Navy, 27 June 94.
9. Buckley, John J., Marlene H. Buckley, and Hung-Fu Chiang, Research Methodology and Business Decisions, National Association of Accountants, Society of Industrial Accountants of Canada, 1976.
10. Hammer, Michael, James Champy, Reengineering the Corporation, New York, N.Y., HarperBusiness, 1993.
11. Gore, Albert, From Red Tape to Results: Creating a Government that Works Better and Costs Less, Report of the National Performance Review, Government Printing Office, Sept. 7, 1993.
12. Hammer, Michael, "Reengineering Work: Don't Automate, Obliterate", Harvard Business Review, July-August 1990.

13. Hammer, Michael, and Steven A. Stanton, The Reengineering Revolution, HarperBusiness, New York, N.Y., 1994.
14. Joint Financial Management Improvement Program, Framework for Financial Management Systems, Government Printing Office, January 1995.
15. Horngren, Charles T., George Foster, Srikant M. Datar, Cost Accounting, A Managerial Emphasis, Prentice Hall, Englewood Cliffs, N.J., 1994.
16. Barrett, M. Edgar and LeRoy B. Fraser, III, "Conflicting Roles in Budgeting for Operations", Harvard Business Review, Boston, Mass., July-August 1977.
17. Vancil, Richard F., "What Kind of Management Control Do You Need?", Harvard Business Review, Boston, Mass., March-April 1973.
18. Kaplan, Robert S. And David P. Norton, "The Balanced Scorecard-Measures that Drive Performance", Harvard Business Review, Boston, Mass., January-February 1992.
19. Anthony, Robert B., "Characteristics of Management Control Systems", Management Control Systems - Cases and Readings, Richard D. Irwin, Inc., Homewood, Ill., 1965.
20. Euske, Kenneth J., Management Control: Planning, Control, Measurement, and Evaluation, Addison-Wesley Publishing Company.

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